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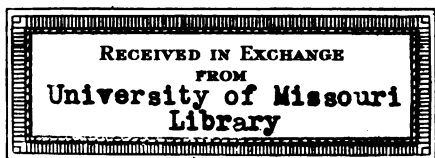
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DOCUMENTS
OF THE
SENATE

OF THE
STATE OF NEW YORK. *Legislature*
Senate

ONE HUNDRED AND FORTIETH SESSION

1917

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ALBANY
J. B. LYON COMPANY, PRINTERS
1917

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STATE OF NEW YORK

SEVENTH REPORT

OF THE

**New York State Bridge and
Tunnel Commission**

(Formerly New York Interstate Bridge Commission)

TO THE

LEGISLATURE OF 1917 OF THE STATE OF NEW YORK

TRANSMITTED TO THE LEGISLATURE JANUARY 10, 1917

**ALBANY
J. B. LYON COMPANY, PRINTERS
1917**

STATE OF NEW YORK

JUL 21 1936

No. 17

IN SENATE

JANUARY 10, 1917.

Seventh Report of the New York State Bridge and Tunnel Commission

NEW YORK CITY, *January 8, 1917.*

HON. EDWARD SCHOENECK, *President of the State Senate, the
Capitol, Albany, N. Y.*

DEAR SIR:—I have the honor to transmit herewith a copy of the
Seventh Annual Report of the New York State Bridge & Tunnel
Commission, (formerly the New York Interstate Bridge Commis-
sion) to the Legislature of the State of New York.

Very respectfully yours,

MORRIS M. FROHLICH,

Secretary.

REPORT

To the Honorable, the Legislature of the State of New York:

The subscribers have the honor to present the following report:

The last official report of the Commission was made to the Legislature of 1914. A memorandum report of the activities of the Commission during the year 1914 was made, however, to the Ways and Means Committee of the Assembly and to the Finance Committee of the Senate, during the legislative session of 1915. This report is printed herewith as Appendix A.

As mentioned in this report to the Committees, the work of the New York Commission has been greatly delayed by reason of the course of legislation in New Jersey. The New Jersey law now in force, chapter 245 of the laws of 1914, approved April 17th of that year, greatly modified the powers of the New Jersey Interstate Bridge & Tunnel Commission with which the New York Commission had been acting. This act provides, however, for the creation of a new Commission having full power to represent the interests of the State of New Jersey in connection with bridging or tunneling the Hudson River. The New Jersey act is general in its form and provides a method for the creation of Bridge and Tunnel Commissions which shall have jurisdiction over their appropriate territories in connection with any navigable stream which forms a boundary of the State of New Jersey.

The act provides that at least three adjoining counties of New Jersey, one of which must be in part bounded by a navigable stream constituting a boundary of the State, may, through their respective governing bodies, file a request in the office of the Secretary of State, asking for the appointment of a Bridge and Tunnel Commission. It thereupon becomes the duty of the Governor to appoint such Commission consisting of three persons from each of the counties interested, and a member at large, who is not a

resident of any of such counties. The request for the formation of the Commission shall provide that the preliminary expenditures of the Commission shall be a charge upon the counties involved, to the extent specified in the respective requests, but not exceeding \$10,000 for each county.

After such a Commission has been formed, it is its duty to prepare the necessary plans, to select the location and make the necessary estimates of the cost of the bridge or tunnel, and to engage employees necessary to carry out these duties. After the plans and estimates have been prepared, the Commission is required to transmit them to the governing body of each of the counties interested, together with full estimates of the cost of construction. Within a year, the governing body of the counties involved may, by proper resolution, request the Commission to proceed with the construction of the bridge or tunnel provided that one-half of the total cost of such construction shall not exceed three per cent of the tax ratables of the real and personal property of such counties for the last preceding year. Upon the receipt of such a request from at least three of the counties involved, which shall obligate each of them for the respective amounts agreed to be paid by them in the resolution, the Commission is authorized to proceed with the construction of the tunnel or bridge in accordance with the limitations and restrictions prescribed by the counties, and to make all necessary contracts to effectuate such construction; first, however, securing the approval of three Justices of the New Jersey Supreme Court, designated by the Governor, who shall, after a public hearing, pass upon the arrangements entered into by the Commission with the counties, apportioning among them the cost of construction. From time to time as the construction proceeds, the Commission may call upon the counties to furnish their proportionate share. To cover this object, the counties are authorized to issue bonds at not to exceed five per cent interest. No construction work can be undertaken by the Commission until the proper county or municipality with which the bridge or tunnel is to connect, shall have entered into a binding obligation with the Commission to pay one-half of the cost of the bridge or tunnel, and of its maintenance.

The Commissions appointed in the State of New Jersey pur-

suant to this act, are authorized to contract with similar Commissions appointed by the State or municipality with which such bridge or tunnel shall connect, or with the State or municipality in question directly, for the joint operation and maintenance of such bridge or tunnel.

The right of condemnation within the State of New Jersey is granted, and all expenditures in excess of \$2,000 must be made as the result of public bids followed by an award to the lowest responsible bidder.

After the passage of this act, the Boards of Chosen Freeholders of the Counties of Bergen and Hudson, duly passed resolutions requesting the appointment of a Bridge and Tunnel Commission, and obligating the Counties to pay \$10,000 each toward the expense of such a Commission. These resolutions have been renewed from time to time, in accordance with the requirements that such a resolution does not become effective until at least three Counties have taken similar action, and that a resolution of any one County shall expire at the conclusion of six months unless renewed.

In the County of Essex, the matter has been brought up before the Board of Freeholders several times, and upon the last occasion was lost by a tie vote. The members of the former New Jersey Commission, who were interested in the matter, have stated that this was due to a misunderstanding on the part of one or two of the Essex Freeholders who voted in opposition under the mistaken belief that Essex County would have to assume the major portion of the financial burden of the preliminary work. The members of the New York Commission are told that this matter will again be brought up in Essex County during either December, 1916, or January, 1917, and that there is every probability that a resolution will be passed and a Commission duly authorized to represent the State of New Jersey in connection with bridging or tunneling the Hudson River, will be appointed.

To anyone who studies the problem, the advantages of direct connection between the States of New York and New Jersey are impressive. A bridge or vehicular tunnel traversing the Hudson River and connecting the two States, or a series of bridges and vehicular tunnels combined, would have the same effect to an even greater degree, as has been produced by the bridges connect-

ing New York City and Brooklyn. The value and advantage of these bridges have been proven many times over. Northern New Jersey is a natural feeder to New York City. Its surplus produce goes almost wholly to the New York market. Its people, to a large extent, obtain their supplies and spend their money in New York City.

Direct connection between the two States has the following advantages:

1. It would connect more closely the people of the two States, between which no public highway exists today.
2. Direct connection between New York and New Jersey was of sufficient importance to cause the railroads to tunnel the Hudson at their own expense. It is not less important for the people of the two States.
3. Bridges and vehicular tunnels form connecting links between the highways of the two States, and are integral parts of any highway system and just as important as good roads.
4. It would be of great value to New York City in furnishing a direct connection between that City and the farmers in northern New Jersey and the southern Counties of New York lying west of the Hudson River, by which their produce may be brought in their own wagons to the City market. In case of an important railroad strike or one involving river transportation, this would be of inestimable value.
5. It would increase the assessed valuations in both States throughout the territory benefited.
6. It would provide a continuous haul between the two States, which is more economical than the present wasteful, congested and time-consuming method of communication by ferry.
7. It would give direct access from the City of New York to the system of New York State parks west of the Hudson, lying at its doors, which the City now has inadequate means to reach.
8. It would tend to relieve congestion at the ferries and provide for uninterrupted vehicular traffic between the States. At the present time, wagons and automobiles are frequently delayed for an hour or more at the ferries.
9. It would afford a continuous automobile and vehicular highway connecting the City of New York with northern New Jersey,

and with that portion of New York State lying west of the Hudson, constituting seven-eighths of the State.

10. Reasonable tolls in place of the present heavy charge for the ferriage of vehicles would increase traffic between the two States.

11. A bridge or vehicular tunnel could be used at any hour of the day or night, and would give New York shippers an opportunity to forward freight packages to western points at their convenience. Such packages must now be delivered at the New York freight depots of roads having their terminals in Jersey City or Hoboken, not later than 5 P. M. of each day.

12. It would be of value from a military standpoint in furnishing an opportunity for the uninterrupted movement of troops and supplies through the City in case of necessity.

Since its inception in 1906, the New York State Bridge & Tunnel Commission has investigated the status, condition and projects of three companies chartered to bridge the Hudson River. It has made a careful study of the various routes and sites desirable for bridge and tunnel communication between the City of New York and the State of New Jersey. It has kept in touch with the sentiment of the two States upon this important subject through conferences, public hearings and attendance upon meetings of public bodies and associations of citizens in the two States. It has caused reports and plans to be prepared by competent engineers and architects covering the erection and construction of bridges and tunnels traversing the Hudson. Under its jurisdiction, test borings have been made at 179th Street and 110th Street and also in the vicinity of 57th Street. The result of these borings is fully set forth in the Fifth Report of the Commission for the year 1913. It has carefully watched Federal legislation which would have a tendency to complicate the construction and maintenance of interstate bridges or tunnels across the Hudson, and has appeared before the Secretary of War in this connection, with the result that favorable modifications of pending legislation and of proposed changes in the pier-head line have been secured. In connection with the New Jersey Commission, it has made a study of traffic conditions affecting proposed interstate communication.

During a portion of the Commission's existence it has been

handicapped by the fact that no corresponding body appointed by the State of New Jersey existed. This has necessarily delayed the completion of the project for which the Commission was created. The adjustment of a matter of this nature between two sovereign States is almost always of slow growth and it is most important that the results of the progress already made, and the benefits accruing from the continuity of the work, should not be lost, especially when it appears that the northern Counties of New Jersey are about to take advantage of the laws of 1914 of that State, the substance of which has been previously set forth in this report.

Three southern Counties of New Jersey have already acted under this law and have formed a Commission known as the Delaware River Bridge & Tunnel Commission, with offices in Camden, New Jersey; the purpose being to secure direct connection between the Cities of Philadelphia and Camden across the Delaware River. The three Counties of New Jersey interested, Camden, Gloucester and Burlington, have contributed a total of \$10,750 toward the preliminary expenses of that Commission. That Commission has proceeded to get in touch with the authorities of Pennsylvania, and is actively pushing its project. The formation of the Delaware River Commission is of itself an encouraging sign.

During the ten years of its existence, your Commission has expended for soundings and borings \$10,466.89; for all other purposes, a total of \$26,800.56, an average of about \$2,680 a year. The borings are of permanent value and are readily available to Federal and State authorities. Similar expenditures have been made by the State of New Jersey. At the time of rendering the last formal report of the Commission, February 16th, 1914, this Commission had to its credit an unexpended balance of \$13,774.43. From that date to March 11, 1915, it expended \$3,444.57. This left a balance on that date of \$10,329.86 of the available appropriation unexpended, which then reverted to the State Treasury by limitation. A bill to re-appropriate the unexpended balance had passed the Senate, but failed to be put upon the final order of its passage in the Assembly prior to March 11, 1915; thereafter, \$5,000 was inserted in the Supply Bill, chapter 726 of the laws of 1915, which was approved and became available for the Commis-

sion. The expenditures of the Commission under this appropriation down to June 30, 1916, amounted to \$2,468.55. Chapter 126 of the laws of 1916 required that the unexpended balance of all existing appropriations made prior to January 1, 1916, should revert to the general fund on June 30, 1916, less the amount of liabilities previously incurred, chargeable to such fund. Under this law, the Commission was allowed from the unexpended balance of the appropriation \$425.00 to cover office rent for the offices of the Commission, which were under lease to May 1, 1917. This left a balance of \$2,106.45 from the appropriation of \$5,000 which reverted to the Treasury on June 30, 1916.

Your subscribers have been alive to the importance of continuing the existence of the Commission, and to the necessity of permitting no backward step to adversely affect the cause of interstate communication across the Hudson. They have accordingly continued their meetings from time to time and their studies of the problems involved in their work. The efficient Secretary of the Commission, Mr. Morris M. Frohlich, has displayed his interest in the work by continuing to serve since June 30th of this year, despite the lack of an available appropriation.

The Commissioners respectfully call the attention of the Legislature to the necessity for an appropriation in the next annual budget for the fiscal year extending from July 1, 1917, to July 1, 1918, and for a further appropriation which shall be available for deficiencies occurring subsequent to June 30, 1916.

The Commissioners are serving without compensation.

All of which is respectfully submitted.

Dated, New York, December 30, 1916.

GEORGE R. DYER,

Chairman.

E. W. BLOOMINGDALE,

McDOUGALL HAWKES,

A. J. SHAMBERG,

F. J. H. KRÄCKE.

MORRIS M. FROHLICH,

Secretary.

APPENDIX "A"

MEMORANDUM ON ACT REAPPROPRIATING THE UNEXPENDED
BALANCE OF THE APPROPRIATION HERETOFORE MADE TO THE
NEW YORK INTERSTATE BRIDGE COMMISSION, SINCE CHANGED
TO THE NEW YORK STATE BRIDGE AND TUNNEL COMMISSION.

This bill reappropriates the unexpended balance of the appropriation of twenty-five thousand one hundred two dollars and eighty-one cents (\$25,102.81) made to this Commission by Chapter 75 of the laws of nineteen hundred and thirteen, amounting on January 1st to ten thousand nine hundred thirty-eight dollars and eighty-five cents, (\$10,938.85).

During the year 1914, the work of this Commission, which is engaged in solving the problem of providing the ways and means for the construction of tubes or of a bridge crossing the Hudson River, has been considerably delayed by reason of the last legislative expression in New Jersey (chapter 245 of the Laws of 1914) which, while providing for the appointment of a new interstate bridge and tunnel commission by the Governor upon petition of three or more counties, (the said commission to have the power to select the site of the bridge or tunnels or both and make the preliminary plans), practically makes the present New Jersey Interstate Bridge and Tunnel Commission functus officio.

The Board of Freeholders of Bergen county, New Jersey, in compliance with the statute of 1914, has since passed the resolution petitioning the Governor for the appointment of a new commission and the matter is now under consideration by the respective Boards of Hudson, Essex, Passaic and Union Counties and the indications are that a similar resolution will be adopted by at least two or more of the aforesaid Counties, and that the present members of the New Jersey Interstate Bridge and Tunnel Commission will, in all probability, be among those appointed by the Governor.

At a joint meeting of the New York and New Jersey Commissions held May 8, 1914, a resolution was adopted requesting the Board of Estimate and Apportionment of the City of New York to appoint a special committee on conference or designate one of their standing committees for the purpose of conferring with a sub-committee of the Joint Commissions upon the subject of an interstate bridge and vehicular tunnel between New York City and New Jersey with particular reference to the framing of legislation to be presented to the New York State Legislature of 1915 and at a meeting of the Board of Estimate and Apportionment, held May 15, 1914, the above matter was referred to the Committee on Port and Terminal Facilities with the President of the Board of Aldermen and the Commissioner of Bridges added. At a later meeting of the Joint Commissions it was decided to delay conference with the aforesaid Committee until three or more of the New Jersey Counties had acted definitely in the matter.

The attention of the Commission was called to U. S. Senate Bill No. 5487, introduced by Senator O'Gorman, entitled 'A Bill to supplement an Act entitled "An Act to authorize the New York and New Jersey Bridge Companies to construct and maintain a bridge across the Hudson River between New York City and the State of New Jersey," approved June seventh, eighteen hundred and ninety-four,' which in effect would extend the time for the completion of the said bridge and approaches thereto for ten years from the date of the approval of said bill and further provides for the re-submission of the plans for the construction of said bridge for the approval of the Secretary of War but omits to provide for the re-submission of the location of said bridge which was approved by the Secretary of War March 13, 1896, at a point between West 59th and 60th Streets, New York City, to an opposite point in New Jersey.

As the Joint Commissions have heretofore recommended and reported to their respective States the advisability of selecting a site for the bridge proposed to be erected by the respective States, or political sub-divisions thereof, in the neighborhood of West 57th-58th Streets, New York City, to an opposite point in New Jersey, the said Commissions, at a joint meeting held May 28th, 1914, adopted a resolution opposing the said Bill in its present

form and recommended that the Bill be amended to provide for the re-submission of the location of the proposed bridge of the New York and New Jersey Bridge Companies to the Secretary of War, and also requested the Committee on Commerce of the Senate to grant a hearing to the Joint Commissions before taking any action in the matter.

During the months of December, 1913, and January, 1914, this Commission co-operated with the New Jersey Commission in the collection and classification of vehicular statistics on the various ferries running between New York City and New Jersey, the entire expense of which was borne by the New Jersey Commission.

The members of the Commission attended the conferences of the New Jersey Commission with Committees appointed by the Boards of Freeholders of the Counties of Bergen, Hudson, Essex, Passaic and Union which were held at the office of the Joint Commissions on May 21 and June 11, 1914, and also attended a number of meetings of civic bodies throughout the City during the past year.

The Commission, on the 1st day of January, 1915, had to its credit an unexpended balance of \$10,938.85. The total disbursements audited and certified to date since February 16, 1914, the date of the last report, amount to \$2,835.58.

The Commissioners are serving without compensation.

All of which is respectfully submitted.

MORRIS M. FROHLICH,
Secretary.

N. B. The appropriation of 1913 lapses on March 11, 1915, and it is therefore of the utmost importance that this measure reach the Governor's hand by March 1st.

STATE OF NEW YORK

No. 18

IN SENATE

JANUARY 23, 1917

List of Standing Committees of the Senate for the Year 1917, with Place of Meeting and Individual Assignments of Senators

ON FINANCE

(Room 332. Clerk, Mason C. Hutchins)

Messrs. Sage, Hewitt, Walters, Emerson, Whitney, Thompson, George F., Hill, Thompson, George L., Mills, Slater, Stivers, Brown, Elon R., Ramsperger, Cullen, Wagner.

ON THE JUDICIARY

(Room 330. Clerk, Frank R. Malpass)

Messrs. Walters, Spring, Gilchrist, Halliday, Burlingame, Walton, Newton, Knight, Ottinger, Gibbs, Brown, Adon P., Brown, Elon R., Foley, Dowling, Wagner.

ON AFFAIRS OF CITIES

(Room 423. Clerk, Peter Vanderpane)

Messrs. Argetsinger, Slater, Stivers, Wicks, Wellington, Gibbs, Halliday, Graves, Burlingame, Ottinger, Brown, Elon R., Ramsperger, Heffernan, Wagner.

ON PUBLIC SERVICE

(Room 332. Clerk, Frank A. Waters)

Messrs. Thompson, George F., Newton, Emerson, Lawson, Hewitt, Yelverton, Wicks, Murphy, Cromwell, Brown, Elon R., Heffernan, Walker, Downing.

ON INTERNAL AFFAIRS OF TOWNS, COUNTIES AND PUBLIC HIGHWAYS

(Room 312. Clerk, E. S. Manchester)

Messrs. Hewitt, Robinson, Slater, Spring, Wellington, Brown, Adon P., Knight, Yelverton, Brown, Elon R., Daly, Downing, Wagner.

ON AFFAIRS OF THE CITY OF NEW YORK

(Room 317. Clerk, William Cannon)

Messrs. Mills, Cromwell, Burlingame, Lockwood, Murphy, Ottinger, Lawson, Walton, Gilchrist, Robinson, Brown, Elon R., Argetsinger, Foley, Sheridan, Wagner.

ON PUBLIC EDUCATION

(Room 226. Clerk, M. A. Robinson)

Messrs. Lockwood, Halliday, Newton, Carson, Brown, Adon P., Robinson, Mills, Brown, Elon R., Walker, Dowling, Wagner.

ON CODES

(Room 311. Clerk, J. L. Miller)

Messrs. Newton, Gilchrist, Slater, Lawson, Wellington, Murphy, Walker, Cotillo, Daly.

ON TAXATION AND RETRENCHMENT

(Room 400. Clerk, John Riley)

Messrs. Emerson, Whitney, Marshall, Mullan, Hewitt, Mills, Wicks, Cullen, Boylan.

ON COMMERCE AND NAVIGATION

(Room 224. Clerk, Angelo Cogliano)

Messrs. Gilchrist, Towner, Stivers, Hill, Thompson, George L., Graves, Dunnigan, Koenig, Daly.

ON CANALS

(Room 313. Clerk, R. B. Hines)

Messrs. Cromwell, Spring, Hewitt, Yelverton, Ottinger, Murphy, Ramsperger, Walker, Carroll.

ON INSURANCE

(Room 313. Clerk, John Towner)

Messrs. Towner, Whitney, Mullan, Slater, Cromwell, Emerson, Graves, Carson, Dunnigan, Koenig, Downing.

ON CONSERVATION

(Room 400. Clerk, John D. Fratcher)

Messrs. Walton, Towner, Thompson, George L., Wellington, Robinson, Yelverton, Marshall, Cotillo, Sheridan.

ON CIVIL SERVICE

(Room 225. Clerk, Charles Lauer)

Messrs. Mullan, Thompson, George F., Argetsinger, Walters, Sage, Downing, Dowling.

ON BANKS

(Room 401. Clerk, F. J. Seaver)

Messrs. Marshall, Lockwood, Hill, Mills, Knight, Carroll, Cotillo.

ON PUBLIC HEALTH

(Room 226. Clerk, E. M. Brown)

Messrs. Whitney, Wicks, Wellington, Yelverton, Dunnigan, Cotillo.

ON MILITARY AFFAIRS

(Room 313. Clerk, W. E. Weller)

Messrs. Stivers, Cromwell, Burlingame, Graves, Foley, Daly, Downing.

ON LABOR AND INDUSTRY

(Room 227)

Messrs. Spring, Carson, Mullan, Boylan, Dunnigan.

ON REVISION

(Room 224)

Messrs. Burlingame, Stivers, Hill, Carroll, Koenig.

ON PENAL INSTITUTIONS

(Room 226. Clerk, Fred J. Schaefer)

Messrs. Wellington, Towner, Gilchrist, Carroll, Boylan

ON PRINTED AND ENGROSSED BILLS

(Room 225. Clerk, F. Weingartner)

Messrs. Lawson, Marshall, Gibbs, Koenig, Cotillo.

ON AFFAIRS OF VILLAGES

(Room 227. Clerk, Sherman T. Lewis)

Messrs. Knight, Carson, Thompson, George F., Thompson, George L., Hill, Koenig, Daly.

ON AGRICULTURE

(Room 314. Clerk, Orlo MacDougall)

Messrs. Wicks, Towner, Walton, Robinson, Brown, A. P., Carson, Halliday, Heffernan, Walker.

ON PRIVILEGES AND ELECTIONS

(Room 224. Clerk, Theodore Horton)

Messrs. Halliday, Cromwell, Lawson, Brown, A. P., Gibbs, Downing, Sheridan.

ON PUBLIC PRINTING

(Room 225. Clerk, Frank Pearsons)

Messrs. Gibbs, Lockwood, Graves, Heffernan, Carroll.

ON RULES

(Room 335. Clerk, W. L. Woodbury)

Messrs. Brown, Elon R., Walters, Sage, Argetsinger, Wagner.

SPECIAL COMMITTEE ON APPORTIONMENT

(Mezzanine Floor. Clerk, James Hook)

Messrs. Wicks, Halliday, Burlingame, Walton, Mills, Slater, Ottinger, Murphy, Emerson, Cullen, Downing.

SENATE COMMITTEES**Individual Assignments***Forty-fifth District*

Argetsinger, George F.,* (Ch.) Cities; City of New York; Ex officio; Civil Service; Rules.

Fifteenth District

Boylan, John J., Taxation and Retrenchment; Labor and Industry; Penal Institutions.

Thirty-seventh District

Brown, Adon P.,* Judiciary; Internal Affairs; Public Education; Agriculture; Privileges and Elections.

Thirty-fifth District

Brown, Elon R.,* (Ch.) Rules, and as Temporary President, member Ex-Officio of Finance; Judiciary; Cities; Public Service; Internal Affairs; City of New York; Education.

Eighth District

Burlingame, Alvah W., Jr.,* (Ch.) Revision; Judiciary; Cities; City of New York; Military Affairs.

Seventh District

Carroll, Daniel J., Banks; Canals; Revision; Penal Institutions; Public Printing.

Forty-second District

Carson, William A.,* Insurance; Public Education; Labor and Industry; Affairs of Villages; Agriculture.

Twentieth District

Cotillo, Salvatore A., Codes; Conservation; Banks; Public Health; Printed and Engrossed Bills.

Twenty-third District

Cromwell, George,* (Ch.) Canals; Public Service; City of New York; Insurance; Military Affairs; Privileges and Elections.

* Republicans.

Third District

Cullen, Thomas H., Finance; Taxation and Retrenchment.

Second District

Daly, Peter M., Internal Affairs; Codes; Military Affairs; Affairs of Villages; Commerce and Navigation.

Nineteenth District

Dowling, Edward J., Judiciary; Civil Service; Public Education.

Eleventh District

Downing, Bernard, Public Service; Internal Affairs; Insurance; Civil Service; Military Affairs; Privileges and Elections.

Twenty-first District

Dunnigan, John J., Commerce and Navigation; Insurance; Public Health; Labor and Industry.

Thirty-third District

Emerson, James A.,* (Ch.) Taxation and Retrenchment; Finance; Public Service; Insurance.

Fourteenth District

Foley, James A., Judiciary; City of New York; Military Affairs.

Fiftieth District

Gibbs, Leonard W. H.,* (Ch.) Public Printing; Judiciary; Cities; Printed and Engrossed Bills; Privileges and Elections.

Tenth District

Gilchrist, Alfred J.,* (Ch.) Commerce and Navigation; Judiciary; City of New York; Codes; Penal Institutions.

Forty-eighth District

Graves, Ross,* Cities; Insurance; Commerce and Navigation; Military Affairs; Public Printing.

Forty-first District

Halliday, Morris S.,* (Ch.) Privileges and Elections; Judiciary; Cities; Public Education; Agriculture.

* Republicans.

Fifth District

Heffernan, William J., Cities; Public Service; Agriculture; Public Printing.

Fortieth District

Hewitt, Charles J.,* (Ch.) Internal Affairs; Finance; Public Service; Taxation and Retrenchment; Canals.

Thirty-ninth District

Hill, William H.,* Finance; Commerce and Navigation; Banks; Affairs of Villages; Revision.

Twelfth District

Koenig, Jacob, Commerce and Navigation; Insurance; Revision; Printed and Engrossed Bills; Affairs of Villages.

Forty-fourth District

Knight, John,* (Ch.) Affairs of Villages; Judiciary; Internal Affairs; Banks.

Ninth District

Lawson, Robert R.,* (Ch.) Printed and Engrossed Bills; Public Service; City of New York; Codes; Privileges and Elections.

Fourth District

Lockwood, Charles C.,* (Ch.) Public Education; City of New York; Banks; Public Printing.

Thirty-fourth District

Marshall, N. Monroe,* (Ch.) Banks; Taxation and Retrenchment; Conservation; Printed and Engrossed Bills.

Seventeenth District

Mills, Odgen L.,* (Ch.) City of New York; Finance; Public Education; Banks; Taxation and Retrenchment.

Forty-sixth District

Mullan, John B.,* (Ch.) Civil Service; Taxation and Retrenchment; Insurance; Labor and Industry.

* Republicans.

Sixth District

Murphy, Charles F., Public Service; City of New York; Codes; Canals.

Forty-third District

Newton, Charles D.,* (Ch.) Codes; Judiciary; Public Service; Public Education.

Eighteenth District

Ottinger, Albert,* Judiciary; Cities; City of New York; Canals.

Forty-ninth District

Ramsperger, Samuel J., Finance; Cities; Canals.

Thirty-second District

Robinson, Theodore D.,* Internal Affairs; City of New York; Conservation; Public Education; Agriculture.

Twenty-eighth District

Sage, Henry M.,* (Ch.) Finance; Civil Service; Rules.

Twenty-second District

Sheridan, John V., City of New York; Conservation; Privileges and Elections.

Twenty-fourth District

Slater, George A.,* Finance; Cities; Internal Affairs; Codes; Insurance.

Fifty-first District

Spring, George E.,* (Ch.) Labor and Industry; Judiciary; Internal Affairs; Canals.

Twenty-fifth District

Stivers, John D.,* (Ch.) Military Affairs; Finance; Cities; Commerce and Navigation; Revision.

Forty-seventh District

Thompson, George F.,* (Ch.) Public Service; Finance; Civil Service; Affairs of Villages.

* Republicans.

First District

Thompson, George L.,* Finance; Commerce and Navigation; Conservation; Affairs of Villages.

Twenty-sixth District

Towner, James E.,* (Ch.) Insurance; Commerce and Navigation; Conservation; Penal Institutions; Agriculture.

Thirteenth District

Walker, James J., Public Service; Codes; Public Education; Canals; Agriculture.

Thirty-eighth District

Walters, J. Henry,* (Ch.) Judiciary; Finance; Civil Service; Rules.

Twenty-seventh District

Walton, Charles W.,* (Ch.) Conservation; Judiciary; City of New York; Agriculture.

Twenty-eighth District

Wellington, George B.,* (Ch.) Penal Institutions; Cities; Internal affairs; Codes; Conservation; Public Health.

Thirtieth District

Whitney, George H.,* (Ch.) Public Health; Finance; Taxation and Retrenchment; Insurance.

Thirty-sixth District

Wicks, Charles W.,* (Ch.) Agriculture; Taxation and Retrenchment; Cities; Public Health; Public Service.

Thirty-first District

Yelverton, James W.,* Public Service; Internal Affairs; Canals; Conservation; Public Health.

Sixteenth District

Wagner, Robert F., Rules; as Minority Leader, Member Ex-Officio of Finance; Judiciary; Cities; Internal Affairs; City of New York; Education.

* Republicans.

STATE OF NEW YORK

No. 19

IN SENATE

JANUARY 24, 1917

Report of the Committee of the New York State Tax Association on Exemptions of Real Property

Committee

Hon. George A. Slater, Port Chester, *Chairman*.

Max Cohen, Esq., Yonkers.

Charles J. Tobin, Esq., Albany.

Hon. Henry R. Barrett, White Plains.

Hon. Lawson Purdy, New York city.

Hon. Ralph W. Thomas, Albany.

Hon. Meier Steinbrink, Brooklyn.

Walter Lindner, Esq., New York city.

L. D. Woodworth, Esq., Rochester.

Francis Lynde Stetson, Esq., New York city.

Hon. Ogden L. Mills, *ex-officio*, New York city.

To the Legislature of the State of New York:

The committee to examine into the subject of exemptions of real property in the State of New York and make recommendations so the burden of exemptions may be lessened, beg leave to submit the following report:

During the legislative session of 1916, Senator George A. Slater, of Westchester county, introduced several bills to cause

the exempt classes in section 4 of the Tax Law relating to exemptions to contribute something toward the support of government. One of the bills, Senate Print No. 94, was reported by the Senate Committee on Taxation and Retrenchment, and duly appeared on the third reading calendar, for final passage. In the debate it was agreed by the Senators present that the subject of tax exemptions should be fully considered by the Special Legislative Committee on Taxation then existing, of which Senator Ogden L. Mills was the chairman. The term of the said Legislative Committee expired and the Assembly failed to extend its life. Senator Mills suggested that the several questions relating to real estate exemptions could be heard and considered by a Committee of the New York State Tax Association, of which he was president, and he thereupon named:

Hon. George A. Slater, Port Chester, *Chairman*.

Max Cohen, Esq., Yonkers.

Charles J. Tobin, Esq., Albany.

Hon. Henry R. Barrett, White Plains.

Hon. Lawson Purdy, New York city.

Hon. Ralph W. Thomas, Albany.

Hon. Meier Steinbrink, Brooklyn.

Julius A. Roberts, Esq., Elizabethtown.

Walter Lindner, Esq., New York city.

L. D. Woodworth, Esq., Rochester.

Francis Lynde Stetson, Esq., New York city.

Hon. Ogden L. Mills, *ex-officio*, New York city.

members of a committee to consider the subject.

The committee met and considered the subject submitted.

The policy of exemption was started with our State government, and has ever since continued.

The benefits to the State have been considerable. In later years, however, the exemption statutes have been amended to meet special cases under general words until in many counties, cities and towns the policy of exemption as extended by the Legislature has become a burden oppressive to the taxpayer.

To examine the whole subject has been the work of this committee. The late Constitutional Convention in committee and upon the floor of the Convention considered the subject at length, and

debated the proposition of the elimination of the entire exemption paragraph. The proposed resolution to have the Constitution prohibit or restrict tax exemptions was evidently thought too drastic and met defeat. The majority of the members of the Convention were not ready to permit of taxation, even in a limited manner, of the educational, religious, charitable and kindred corporations operating for the welfare of society.

This committee has endeavored to be conservative, and has studied the question from the angle of those who believe general exemptions should continue, to some extent, as well as from the viewpoint of the body of taxpayers who are bearing the burden.

We have attempted to call a halt in the extension of the privilege, and direct to public attention those who now enjoy exemptions.

The report of the State Tax Department for 1916 shows:

The total amount of exempt property for the year 1916 is \$2,606,595,302 as compared with \$2,510,143,814 for the year 1915, an increase of \$96,451,488. This increase is divided as follows:

New York city (5 boroughs).....	\$67,588,463 or 70%
Fifty-seven counties outside of the City of	
New York	28,863,025 or 30%

The total 1916 exemptions classified as to ownership are as follows:

Property of United States.....	\$105,237,707
Property of State.....	105,982,334
Property of counties.....	26,701,704
Property of cities.....	1,649,806,992
Property of towns.....	10,943,759
Property of villages.....	8,098,450
Property of school districts.....	25,483,167
Private ownership	674,341,189

Making an aggregate of..... \$2,606,595,302

An analysis of the above property, \$2,606,595,302 (public and private), classified as to use by the State Tax Department, shows the following:

Educational:

Universities, colleges and professional schools other than State Normal Schools	\$91,669,122
State Normal Schools and Colleges for Training of Teachers.....	7,550,166
Public schools	185,343,787
Schools other than public schools.....	36,442,400
Schools for deaf, dumb and blind.....	4,631,355
Schools for feeble-minded.....	1,158,400
Libraries	27,592,020
History and art.....	10,655,175
Parks, playgrounds and gardens.....	701,717,370

Agricultural:

Exhibition buildings and grounds of agricultural societies	\$992,550
Property of granges	7,735

Religious:

Buildings and grounds used as places of religious worship	\$275,949,951
Property of religious corporations occupied by officiating clergymen.....	8,213,780
Property owned by clergymen.....	1,812,450
Moral and mental improvement.....	17,559,040

Fraternal and benevolent:

Fraternal	\$6,576,745
Benevolent	32,096,730

Charitable:

County, city, town and village homes.....	\$21,842,251
Homes for children.....	22,782,035
Homes for veteran soldiers and sailors....	2,825,650

Curative:

General hospitals and dispensaries.....	\$65,010,870
Hospitals for insane.....	23,756,715
Tuberculosis hospitals	1,229,557
Hospitals for contagious diseases.....	680,800
Hospitals for convalescents.....	1,126,200
Maternity hospitals	665,400
Hospitals for children.....	751,805
Hospitals for other special diseases.....	2,963,990

Protective:

Fire	\$19,402,520
Police	9,080,430
Jails, penitentiaries and other places for punishment of crime.....	36,370,300
Lighthouses	8,292,685

Defensive:

Armories	\$23,251,545
Forts and army posts.....	15,729,800
Military reservations and rifle ranges.....	249,500
Arsenals, storehouses and army and navy administration buildings	20,426,824

Public utilities:

Water systems.	\$97,356,815
Lighting systems	1,800,525
Sewerage systems and disposal plants.....	74,064,470
Public baths	2,925,830
Public markets	7,288,835
Bridges, docks and ferries.....	314,883,845
Subways	173,726,552

Administration buildings:

Post office buildings.....	\$25,503,485
Court houses and administration buildings and grounds	133,637,723

General:

Cemeteries	\$66,189,339
Fish hatcheries and game farms.....	83,800
Indian reservations	961,740
Reforested lands	12,390
Property purchased with pension money...	11,752,200

Reports of the Department for previous years show:

1915 — Total real estate assessed.....	\$11,328,994,973
1915 — Total exemptions	2,521,705,003
1915 — Exemptions (privately owned).....	660,668,720

1904 — Total assessed value of real estate....	\$7,051,455,025
1915 — Total assessed value of real estate....	11,328,994,973

1904 — Percentage to whole real estate.....	\$.1883
1915 — Percentage to whole real estate.....	.2225

1914 — Total assessed value of real estate.....	\$10,615,877,069
Total assessed value of real estate exempt from taxation.....	2,377,156,232
Privately owned	654,486,819

Of all exemptions, 27.5% is property
privately owned.

1914 — Westchester county real estate:

Assessed	\$377,979,288
Exempted	55,417,850
Exempted private ownership.....	31,485,676
Exempted Religious	8,663,190
Exempted Cemeteries	1,920,850
Exempted Hospitals	5,753,500
Exempted Benevolent	3,128,670

1915 — TOWNS AND CITIES IN WESTCHESTER COUNTY

	Total assessed value	Exempted	Private ownership
City of Yonkers.....	\$114,080,686	\$17,087,510	\$6,730,960
City of White Plains...	18,811,725	8,846,280	6,214,280
Town of Rye.....	21,672,640	2,335,800	1,300,100
Town of Greenburgh.....	43,197,000	6,071,100	3,823,000

1915 — REAL PROPERTY EXEMPTED

	Aggregate amount of exempt property	Private ownership
Albany County	\$73,743,985	\$20,190,925
Cayuga County	6,210,491	3,216,761
Dutchess County	14,083,503	6,809,912
Erie County	70,864,190	26,972,744
Jefferson County	7,095,695	3,249,300
Monroe County	28,820,199	15,589,249
Nassau County	8,030,255	4,990,390
Oneida County	13,710,216	6,810,543
Onondaga County	32,851,682	13,277,500
Rensselaer County	15,717,734	10,572,419
Schenectady County	10,701,638	4,565,514
Ulster County	4,095,360	2,391,990
Westchester County	60,892,378	32,286,533

In a recent article by the Honorable Martin Saxe, President of the New York State Tax Commission, referring to the growth of tax exemption, he said:

“It is a maxim of the tax law, applied by the courts, that taxation is the rule and exemption therefrom the exception; but when we look into the legislative development of exemption from taxation in this State, we may well doubt whether the maxim obtains in our statutory system, for we find that during the last decade the exemption of real property from taxation in New York has increased nearly twice as fast as its assessment for taxation. In 1905 the real estate exemptions in this State aggregated \$1,385,353,000, while in 1915 they aggregated \$2,521,705,000, an increase of 81 per cent. On the other hand, the assessment

of real estate in 1905 aggregated \$7,312,621,000, while in 1915 it aggregated \$10,832,565,000, an increase of 48 per cent.

"The average tax rate for all purposes in this State in 1915 was .019, which rate applied to the \$2,521,705,000 — total of exempt real estate — produces \$47,912,000, or nearly as much as it costs for the yearly operation of the State government.

"According to the 1915 figures, the total of exempt real estate amounted to about 20 per cent of the total real estate assessment of the State; that is to say, about one-fifth of the whole assessed value of real estate in the State of New York is exempt from taxation. Of the total exemptions, approximately, 4 per cent represents property of the federal government, 4 per cent property of the State, and 3 per cent the property of counties, towns, villages and school districts; 63 per cent represents the value of city property, while 26 per cent covers the private-ownership exemptions, such as the real property of bodies organized for religious, charitable, benevolent, fraternal, missionary, hospital, infirmary, educational, scientific, literary, library, patriotic, historical and cemetery purposes; also that of medical and pharmaceutical societies, and various special cases down to an academy of music in certain circumstances, besides others.

"Is there any constitutional limitation to which we may look with some degree of hope? From the beginning of our constitutional history down to 1901 there was no provision limiting the legislative power in the exercise of its prerogative with respect to exemptions, but in that year an amendment was adopted prohibiting the legislature from passing any private or local bill granting to any person, association, firm or corporation an exemption from taxation on real or personal property. It is evident, however, from the growth of exempt real estate during the years 1905 to 1915, that that constitutional limitation has not been at all effective; on the contrary, it tends to a very liberal extension of the statute of exemptions, for the simple reason that a private or local measure being unconstitutional, a specially merited case necessitates the adoption of a general statute extending the operation of 'the open door.'

"The seriousness of the growth of tax exemptions was called to the attention of the Constitutional Convention of 1915, and

in the tax article adopted by that body it was provided that 'hereafter no exemption from taxation shall be granted except by general laws and upon the affirmative vote of two-thirds of all the members elected to each house.'

* * * * *

"Notwithstanding the statutory exemptions, there is no doubt but that we suffer considerably from illegal exemption by the assessor, which, perhaps in most cases, is due to ignorance of the law or inefficiency, but in other cases is the result of deliberate intent. For instance, the tax law permits the exemption of personages to the extent of \$2,000, but we are constantly finding such properties worth many times \$2,000 exempted for the whole amount. We find, too, that real property purchased with pension money, which the law exempts to the extent of \$5,000, of valuation, from State, county and general municipal taxation, but makes liable for school, street construction and highway taxes, is very frequently not taxed for the latter purposes at all."

I

THE COMMITTEE OFFER THE FOLLOWING SUGGESTIONS:

1. Under existing laws all assessors make reports of all exemptions to the State Tax Department. We suggest that the State Board provide a general form of applications for exemptions and require a duplicate copy of such applications as may be granted to be filed with the State Department. In this manner the local assessors may be advised by the State department and notified when exemptions are made contrary to the law.

2. While it is admitted that certain types of property devoted to uses which are essentially public in character — but localized such as hospitals, libraries, schools and colleges and various types of charitable institutions, should be exempt from taxation; we suggest that it would be fairer if institutions located in a given community, not designed to serve the needs of the particular community, were made exempt from taxation at the cost of a larger political subdivision. That is, the loss of income from taxation should be borne by a whole county — or even by the State — rather than by the village or the town in the cases in which the corporation or association do not minister principally to the needs of the village or town.

The people of Westchester County recognized this principle, when chapter 404 of the Laws of 1915 was adopted at the request of the Board of Supervisors of that county. The act provides that all real estate of the county purchased or acquired for county purposes after October 1, 1914, shall be subject to taxation notwithstanding the exemption provided in subdivision 3 of section 4 of the Tax Law:

3. We suggest that new language be added to section 4 of the Tax Law, in effect that corporations, associations and individuals may waive the exemption allowed to them under section (4) four.

4. We suggest that the second-class cities law be amended to provide and that future city charters shall provide for only one assessor in the city government. It has been found that if one person is employed in the work of making assessments, giving his whole time to the public service, the work of the department of taxes is much more satisfactory and efficient, with the result that the records of that office are kept in an up-to-date manner.

5. We suggest that section 22 of the Tax Law be amended by striking out so much thereof as gives to the comptroller the power to correct or reduce any assessment made by local assessors of wild or forest land within the forest preserve and of other lands stated in said section. Such power should be lodged in a commission of five, consisting of the State Tax Commissioners, the State Comptroller and the State Conservation Commissioner.

II

WE RECOMMEND TO THE LEGISLATURE THE PASSAGE OF THE FOLLOWING AMENDMENTS TO THE TAX LAW WITH A MEMORANDUM INDICATING THE REASONS THEREFOR:

AMENDMENT No. 1

Section 4 — Subdivision 2.

Amend to read as follows:

Canal lands, public buildings and improvements on land which are owned by this State. [Property of this State other than its wild or forest lands in the forest preserve.]

Memo.

The amendment is designed to render taxable all land owned by the State of New York, and to exempt all buildings and other improvements on such land which is owned by the State of New York.

The land of the State should be taxable locally. The State allows forest lands to be taxed and has in many cases recognized the principle by special acts because of peculiar hardship to country towns. A State hospital may own a large part of the town and the town must pay to educate children of State employees.

AMENDMENT No. 2

Section 4 — Subdivision 6.

Amend to read as follows:

Bonds of this State or any civil division thereof. [To be hereafter issued by the comptroller to carry out the provisions of chapter seventy-nine of the laws of eighteen hundred and ninety-five, chapter one hundred and forty-seven of the laws of nineteen hundred and three, chapter four hundred and sixty-nine of the laws of nineteen hundred and six, chapter seven hundred and eighteen of the laws of nineteen hundred and seven, and bonds of a municipal corporation heretofore issued for the purpose of paying up or retiring the bonded indebtedness of such corporation].

Memo.

The subdivision as it is now exempts all outstanding State bonds except \$760,000 issued for the Saratoga Springs State Reservation. Section 8 of the general municipal law exempts all State bonds and bonds of a municipal corporation. A school district is not a municipal corporation as designated in the General Municipal Law, under which law bonds of municipal corporations are made exempt. School district bonds are not therefore exempt. The statute will be made plain and understandable.

AMENDMENT No. 3

Section 4 — Subdivision 7.

Amend by omitting the following words:

“, or is in good faith contemplated by such corporation or association; or if such real property is held by such corporation or association upon condition that the title thereto shall revert in case any building not intended and suitable for one or more of such purposes shall be erected upon said premises or some part thereof.”

Memo.

The purpose of this amendment is to take out those words which make exemption depend upon the state of mind and not upon a state of facts. These words were inserted by chapter 498, of the Laws of 1893. There are cases in the city of New York where land has been held vacant for over twenty years on the statement that its improvement is in good faith contemplated. In Yonkers at \$100,000 plot was taken from the tax roll under this clause six years ago and no improvements have been made.

The latter part is evidently intended for some particular case. There seems no reason for exempting such unused property. If used the exemption would be granted.

AMENDMENT No. 4

Section 4 — Subdivision 7.

Amend by omitting the following words:

“; provided, however, that a lot or building owned and actually used for hospital purposes, by a free public hospital, depending

for maintenance and support upon voluntary charity, shall not be taxed as to a portion thereof leased or otherwise used for the purposes of income, when such income is necessary for, and is actually applied to the maintenance and support of such hospital, and further provided that the real property of any fraternal corporation, association or body created to build and maintain a building or buildings for its meeting or meetings of the general assembly of its members, or subordinate bodies of such fraternity and for the accommodation of other fraternal bodies or associations, the entire net income of which real property is exclusively applied or to be used to build, furnish and maintain an asylum or asylums, a home or homes, a school or schools, for the free education or relief of the members of such fraternity, or for the relief, support and care of worthy and indigent members of the fraternity, their wives, widows or orphans, shall be exempt from taxation, and provided also that the real estate owned by a free public library, situate outside of a city, shall not be taxed as to that portion thereof leased or otherwise used for the purposes of income, when such income is necessary for and actually applied to the maintenance and support of such library."

Memo.

The provisions omitted have been added from time to time in the form of general laws as required by the Constitutional amendment of 1901, but they are in fact designed in each case to fit some special case. In practice outside of the city of New York it is construed as much broader in its application than the precise terms of the statute would warrant.

AMENDMENT No. 5

Section 4 — Subdivision 11.

Amend subdivision 11 so that it shall read as follows:

The real and personal property of a minister of the gospel or priest of any denomination *who is a resident of this State*, and who is engaged in the work assigned to him by the church or denomination to which he belongs, or who is disabled by impaired health from the performance of such duties, or over seventy years of age, and the property of the widow of such minister *while she*

remains such *and is a resident of this State*, but the total amount of such exemption on account of both real and personal property, shall not exceed fifteen hundred dollars.

Memo.

The City of New York has construed this exemption as for the benefit of a resident of this State only because it is obviously a personal exemption inasmuch as it relates to personal property as well as real. This ruling should be made plain by the statute.

AMENDMENT No. 6

Section 4 — Subdivisions 18 and 19.

Amend by omitting subdivisions 18 and 19 of section 4.

Memo.

These two subdivisions provide for the exemption under certain circumstances of a building owned by a medical society or a pharmaceutical society. If these societies come under the provisions of the general law set forth in subdivision 7, they should be entitled to the exemption, but not otherwise.

AMENDMENT No. 7

§ 4a. Exemptions. Real property hereafter acquired by a corporation in any county other than that in which its principal office is located, which except for this section would be exempt from taxation under subdivision seven of section four of this chapter, shall be subject to taxation.

Memo.

The municipalities in Westchester county and elsewhere are greatly overburdened by tax exemptions. Because Westchester county adjoins Greater New York on the north and is so readily accessible, it is especially burdened. Many of the corporations enjoying exemptions under the law, located in Greater New York have branches or summer homes in Westchester county. Then, too, where land becomes valuable in the Greater City or in some cases the neighborhood too congested the tax exempted institution moves into Westchester county and takes from the tax roll of the

tax district valuable real estate, creating an added burden to the remaining local taxpayers, without serving in any wise the needs of the community in exchange for the loss to the land owners.

The matter has become a serious problem for even so large, populous and wealthy a county as Westchester county. As an example: The city of White Plains is assessed at \$18,811,725 exempt land, \$8,846,280 or about 45 per cent. of the whole assessed value. One phase of the problem was considered by a legislative committee in 1914-15.

Upon complaint of the board of supervisors of Westchester county a joint legislative committee in 1914 was appointed to investigate into the affairs of the Society of the New York Hospital and Bloomingdale Hospital, a branch. A report was made to the Legislature, January 29, 1915. The investigation was asked for because the hospital corporation had located the Bloomingdale branch in the then village of White Plains by acquiring 296 acres of land therein.

The joint legislative committee in 1915, consisting of John F. Healy, chairman; Tracy P. Madden, v. chairman; John D. Stivers, Wilson R. Yard, and A. MacDonald made recommendations to the Legislature as follows:

"First. That a resolution be passed by the Legislature requesting the Constitutional Convention upon its meeting to appoint a committee to consider or to take up in the proper manner the question of exemptions from taxation."

"Second. That a law be passed authorizing the different political divisions of the State to contract, or to enter into an agreement, with the charitable institution proposing to locate in such political division, whereby exemption from taxation is granted for a period not to exceed ninety-nine years, upon payment to the proper authorities in such political division of a sum to be agreed upon between the parties involved, and in case no such agreement is made, then the real estate owned by such institution shall pay taxes in the same manner as real estate owned by other property holders."

"Third. That a law be passed providing that all property of charitable institutions located in counties, or subdivisions, other

than that in which the main institution, its business office or headquarters, is located, shall be taxed in the same manner as property belonging to other property holders."

"Dated Yonkers, N. Y., January 29, 1915."

The amendment No. 7 carries into partial effect the conclusion reached by above referred to legislative committee:

It is the belief of the committee that the proposed bill No. 7 will eliminate the exemption conditions that abound in Westchester county and other counties contiguous to Greater New York occasioned by the removal of corporations from New York city.

CONCLUSION

The adoption of these amendments into the law of the State will not greatly change existing conditions. The policy of the State is settled and the present educational, charitable and religious corporations have been able to grow and serve society under that policy.

We look to the future, however. These amendments will lighten future tax exemption burdens and will stay the increase of many, many unnecessary exemptions under the law.

In view of the extreme conditions existing in many towns, cities and counties of the State and the enormous yearly increase of tax exemptions in the State, these suggestions and proposed amendments to the Tax Law should receive serious consideration at the hands of the present Legislature.

Dated, January 2, 1917.

LAWSON PURDY,
RALPH W. THOMAS,
MEIER STEINBRINK,
WALTER LINDNER,
L. D. WOODWORTH,
OGDEN L. MILLS.

III

We approve the report, all suggestions and proposed amendments except amendment number one.

GEORGE A. SLATER, *Chairman*,
HENRY R. BARRETT,
MAX COHEN,
FRANCIS LYNDE STETSON.

IV

I am unable to agree with the report of the committee as signed by the majority of the members. Most of the figures show the extent of exemptions in the extreme, that is, they are figures of counties where extreme conditions exist. It must also be admitted that the valuations placed upon exempt property is the fair or full value, whereas the value placed upon property that is subject to assessment is far below the full and fair value of the property, so that ratios using such basis are not absolutely correct.

The report of the Legislative Committee of 1915 appointed to investigate the affairs of the Society of the New York Hospital and Bloomingdale Hospital, apparently was of local concern and the report as made was drawn to meet the conditions in the county affected.

In a quoted statement, page 8, it is said "according to the 1915 figures, the total of exempt real estate amounts to about 20 per cent of the total real estate assessment of the State." Yet, if the figures are stated in another way, it can be made to read that using the total real property value in the State, the same to include the assessed real *and exempt*, the exempt real estate would be only 17 per cent of the total real property value in the State for 1915. *So that less than 5 per cent of the total real property of the State is real property exempt in private ownership.*

The large increases in exemptions each year are public, not private. In 1916, it was: Public \$82,779,019, and private \$13,672,469, or 85.5 per cent public and 14.5 per cent private.

It was clearly demonstrated before the Constitutional Convention of 1915 that certain private schools saved annually the city of New York upwards of 7 millions of dollars, which is about 14 times the annual exemptions from taxation allowed said educational institutions.

As to hospitals, it was shown that for the year 1913, in the city of New York, the moneys supplied by private charity to Protestant, Catholic and Hebrew hospitals was 8 times the aggregate of all the exemptions on the land and buildings allowed by the city of New York.

As to asylums for the same year, figures show that for maintenance through private charity and benevolence there was contributed 7 times the aggregate of exemptions on all the lands and buildings.

As has been said "It might be 'efficiency' if New York city added to its assessment list the 17 millions valuation of Trinity Church yard, at the head of Wall street, but the effect would inevitably be to obliterate the church yard and the national deficiency of ideals that would attend its absence would soon eat up the \$340,000 that its taxation would annually return to the city."

Former Chief Judge of the Court of Appeals, Edgar M. Cullen, when the Constitutional Convention of 1915 was in session said: "I am willing to stand sponsor for the present constitutional provisions relative to religious denominations. They have worked very well, and in my judgment, should not be changed, either in favor of or adversely to the denominations. I think it would be grossly unfair to the benevolent persons who have contributed so generously to the erection of the noble religious and charitable edifices which adorn our towns and cities on the faith of a practice that has prevailed in this State from the earliest times to exempt such buildings from taxation, now to turn around and tax them. I am entirely clear that in the long run it would not enhance the revenues of the State or municipalities one whit, while it would deprive a very great many of the poor and unfortunate of assistance from private charity, which, as a rule, is far more economically administered than public charity, and which it should be the object of the State to foster instead of to discountenance."

CONCLUSIONS

I dissent from proposed amendment No. 1 for the reason that the ultimate amount to be paid by the taxpayer would not be lightened in the least. Most of the State property is maintained and cared for at the expense of the state and the locality in which the state property is located rarely expends any money for the State, except the expense of educating children of employees of state institutions and where fire protection is afforded to state owned buildings. The state at the present time is not in a financial condition to add six or seven hundred thousand annually to its already existing burdens. Parks and public buildings

owned by the state enhance and help make the value of adjoining property in any given locality, so that what a tax district would lose in the way of taxes from state land not being on the assessment roll it is offset by the increased values given to other property in the immediate neighborhood.

I dissent from suggestion number 4, as to the number of assessors in cities. I am of the opinion that it might be well to have one assessor in third class cities, but this is not true of second class cities. With very few exceptions, the assessors in cities of the second class give their entire time to the duties of their office, and I think it can be said that most of the departments of taxes and assessments of the cities of the second class are up to date.

I would suggest changing proposed amendment number 4, so that the real property of fraternal corporations used exclusively for fraternal purposes, should be exempt, that is, the term "fraternal" should be carried into the first part of the subdivision, and made subject to the restrictions therein found.

As to proposed amendment No. 7, making taxable property hereafter acquired by a corporation in any county other than that in which its principal office is located, I must likewise dissent. It is my judgment if there exists an **extreme need for the treatment** of this phase of the exemption problem it can be taken care of as outlined in my summary or as proposed in the Committee's suggestion No. 2, that is, have the burden of the exemption spread over a larger area than that in which the exempt real property is located.

It has been suggested in other quarters that charitable institutions and hospitals should move away from populated sections, and if it be an institution for the care of children, more light and air should be afforded the children cared for. Yet, we have a proposition here which would practically prohibit their leaving their present location. A few of the charitable institutions of New York city have summer homes in the counties adjoining or near that in which the principal institution is located so as to afford their wards for two or three months of the year a little recreation and country air to help build up their minds and their bodies, and it cannot be said that the institutions are rich enough to pay taxes on real property located in adjoining counties, for the

effort in taxing hospitals and institutions in the adjoining county would simply make still greater the burden of the generous giver.

Many of the children formerly committed to institutions, as well as a large number that would ordinarily be committed to-day, are now sent to so-called foster homes, so that the revenue of most of the child-caring institutions is being depleted every day and if we are to add to this a tax on the land and buildings of the institution it will amount to nothing less than confiscation.

Each year there is taken up in the city of New York a collection in the churches to help defray the expenses of free beds in certain denominational hospitals.

Under the existing statute corporations and associations receiving exemption are not allowed to make any profit nor can they be deemed commercial propositions in any sense of the word. They are instead rendering a public service and are helpful and beneficial to all classes of the community. The churches are monuments of grandeur and architecture and tend to the peace and order of the community. The charitable and educational institutions render a service which otherwise would have to be rendered by the state itself, and each institution lessens the burden which would have to be borne entirely by the community at large and discharged by taxation. The public hospitals, asylums, etc., are at present inadequate as are also the public facilities for education, particularly in the cities of New York and Buffalo. It can be proven without doubt that the actual cost and value of the services rendered to the public by the private charitable and educational institutions of the state of New York, particularly of the cities of New York and Buffalo, and the saving thereby effected to the budget or taxpayers of the state and cities, greatly exceed the aggregate of all the exemptions granted or other allowances and payments made to them.

Much is said about the money of philanthropists being invested in property of educational, charitable and other corporations that are exempt from taxation. If men and women, rich in goodness and kindness, as well as wealth, seek to help and better society by generous giving to activities of the state and its subdivisions, their efforts should not be destroyed by taxation.

To summarize, it is my opinion that we should

First. Ascertain how much good can be accomplished through clarification of the provisions of section 4, subdivision 7, and the elimination of illegal exemptions by proper administration. I maintain that there is an attempt to root out all exemptions without first giving opportunity to the results of a proper enforcement of the existing statute.

Second. That in place of the proposed amendments, known as "Increment Tax" and the one known as "Section 4b," which is set out and signed separately in this report, that the Constitution be amended in words as follows: "Hereafter no exemption from taxation shall be granted, except by General Laws."

CHARLES J. TOBIN.

Dated, January 2, 1917.

V

As to the matter submitted hereunder the committee have not unanimously agreed. The following statement present the views of those members of the committee whose names are attached hereto:

We make the following suggestion relating to the taxation of unearned increment by exempted corporations. We have given some attention to an amendment to the law which would in a way provide for the payment of a tax upon real property of an exempted corporation at the time of a sale by it. The amount to be paid to be adjusted by the State Tax Commissioners based on a percentage upon the difference between the cost and the sale of the land. The Legislature should fix the percentage. The tax should be levied on the difference between the value of the land when acquired and the actual selling price. The value when acquired could be determined by the actual price paid or assessed value, preferably the former.

GEORGE A. SLATER,

Chairman.

MAX COHEN,
HENRY R. BARRETT,
LAWSON PURDY,
RALPH W. THOMAS,
MEIER STEINBRINK,
WALTER LINDNER,
L. D. WOODWORTH,
FRANCIS LYNDE STETSON,
OGDEN L. MILLS.

VI

We believe the Legislature should enact laws to stop exemptions to corporations hereafter formed. The following amendment proposed by the chairman of this committee is urged by him as a remedy for future and growing exemptions and as a permanent relief to the taxpayer:

§ 4 B. EXEMPTIONS: Real property in any county acquired or held by a corporation hereafter formed, which, except for this section would be exempt from taxation under subdivision seven of section four of this chapter; and property in any county hereafter acquired by an existing corporation and which except for this subdivision would be exempt, shall be exempt under such subdivision only upon consent of the Board of Supervisors of the county or if in the city of New York the Board of Estimate and Apportionment, wherein the property is located, which may grant such consent upon such conditions, agreements, regulations and restrictions as in its judgment the public good may require.

Some members of the committee did not agree to the local option theory. The chairman believes, however, that the principle of home rule might well be applied to great advantage by the Legislature by permitting counties to say whether the burden in any one particular county shall be increased.

We feel that something should be done to affect the future of tax exemptions. It is argued by those who represent present-day exempt corporations that the present existing condition, no matter how burdensome they may be, must not be changed. That it would be inimical to do so after having permitted it to exist since our government has existed. To this idea we cannot subscribe. The tendency of the times is too progressive to allow us to believe our people would not willingly change a system in government that has reached a state which is oppressive to the people.

In any event, we recommend to the Legislature the enactment of a law, be it in the language of the amendment of the chairman, or in other language, so long as it will serve to stay the continuous encroachments of tax exemptions by corporations to be hereafter organized. Men amass great wealth, and in dying become great philanthropists by giving their estate to charity. A most worthy

thing to do, but being permitted by our laws to serve a charity mentioned in its charter and at the same time legalized to be a burden to the people of the community in which it locates, by taking from the assessment roll the land it purchases. The people of the community wherein it may locate are bound hand and foot by the law of this State and are absolutely without right to say whether their present burden shall or shall not be increased. This is a present problem in taxation and in government from which we must not shirk.

As good citizens, as legislators, we must agitate and secure laws which will provide for a more equitable adjustment of this very vexed question and provide for an arrangement of the matter of tax exemption in a manner which will be more scientific and more just.

GEORGE A. SLATER,

Chairman.

HENRY R. BARRETT,

WALTER LINDNER,

FRANCIS LYNDE STETSON.

SIXTY-EIGHTH ANNUAL REPORT

OF THE BOARD OF MANAGERS OF THE

State Agricultural and Industrial School

AT

Industry, New York

**For the Fiscal Year Ending on June Thirtieth,
Nineteen Sixteen**

TRANSMITTED TO THE LEGISLATURE JANUARY 22, 1917

**ALBANY
J. B. LYON COMPANY, PRINTERS
1917**

STATE OF NEW YORK

No. 20

IN SENATE

JANUARY 22, 1917

SIXTY-EIGHTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE STATE AGRICULTURAL AND INDUSTRIAL SCHOOL

DESCRIPTION

The State Agricultural and Industrial School consists of a tract of fourteen hundred and thirty-two and two-thirds acres of land, located in the town of Rush, Monroe county, New York.

It is on the Erie railroad, twelve miles south of Rochester, and has both steam and trolley service, trains running almost hourly.

Freight shipments are made by the Erie railroad and express shipments by the Wells-Fargo Express Company.

The institution has its own post-office, which is located in the administration building; all mail matter addressed to the institution should be sent to Industry, Monroe county, New York.

There will be found in this report a block plan of the institution grounds, showing names and location of buildings and the boundary lines of the farm property.

The Genesee river extends along the west line of the school property its entire length, and Honeoye creek, which flows into the Genesee river, bounds the farm on its southern side.

The Erie railroad runs through the farm from north to south, dividing it into halves, and the Lehigh railroad crosses the farm from east to west at the south end.

The Lehigh railroad is of but little use to the school as it crosses the grounds too far from the administration building and store houses, so all passenger traffic and freight shipments come by way of the Erie road.

The School has twenty farm colonies, nine industrial colonies, two detention colonies and one disciplinary colony.

The farm colonies are occupied by the better class of boys who cultivate the farm. The industrial colonies are occupied by boys who are not so reliable as those in the farm colonies and who are employed in shops, such as the paint, laundry, blacksmith shop, etc.

The disciplinary colony is occupied by boys who are thoroughly unreliable and must have constant supervision both day and night. The boys of this colony are compelled to do the hardest work, such as digging sewers, trenches and road improvements.

The two detention cottages are used for housing boys just received, one being for the smaller boys and the other for the larger ones. New boys are detained in these cottages under constant observation for three weeks before being assigned to a colony.

The cottages are widely scattered about the tract of land, none of them being less than four hundred feet apart, and many in the outlying sections are separated by a much greater distance.

This tract of land is nearly three miles long and a mile wide at its widest point. A supervisor and his wife are assigned to each cottage, both farm and industrial, and in each cottage are housed twenty-five boys. The boys sleep, play and attend school at the cottage where they live and do not congregate with other boys of the school at any time except when called to chapel service.

Food for the boys is prepared in the different cottages, under the supervision of the matron, who is required to send to the executive office a copy of each day's menu, in order that the Superintendent may keep in touch with the variety, etc., of meals provided for the boys.

The store room is located adjacent to the Erie railroad, to which runs a switch from the Erie tracks.

The farm produces all the vegetables, butter, cheese and eggs needed for the consumption of the inmates, and also operates its own flour mill, enabling it to manufacture its own flour, corn meal, and all kinds of ground feed for the stock.



WOOD-CUTTING SCENE IN WINTER

There are two chapels, Protestant and Catholic, in which services are regularly held on Sundays; also a service for Jewish boys held in the administration building each Sunday.

The school is equipped with a large general hospital, its medical staff consisting of a resident physician, visiting oculist, visiting dentist, a matron who is trained nurse, and a trained nurse. There is also a hospital for the care of contagious diseases.

Sewage disposal plants have been installed—No. 1, caring for cottages located at the north end of the farm; No. 2, for the hospital and cottages of the central group individual plants caring for Haneayah, Godageh, Ganeasos and Onalinda. Two more plants are provided for and will be completed at an early date.

The institution is provided with electricity furnished by the Niagara and Lockport Power Company.

BOARD OF MANAGERS

WILLIAM C. BARRY, JR.....	Rochester
Term expires February, 1921	
WILLIAM H. CHAMBERLAIN.....	Kanona
Term expires February, 1923	
GEORGE W. DUNN.....	Webster
Term expires February, 1917	
JOHN W. HENRY.....	Buffalo
Term expires February, 1921	
DR. J. M. LEE.....	Rochester
Term expires February, 1922	
JAMES E. LOCKINGTON.....	Lima
Term expires February, 1920	
EDMUND LYON	Rochester
Term expires February, 1923	
JOHN McKIE	Rochester
Term expires February, 1920	
GEORGE E. PEER.....	Chili Station
Term expires February, 1918	
THOMAS L. QUIGLEY.....	Buffalo
Term expires February, 1917	
EUGENE RAINES	Rochester
Term expires February, 1919	
GEORGE T. ROCHE	Rochester
Term expires February, 1919	
HERBERT S. WEET.....	Rochester
Term expires February, 1923	
Mrs. WARHAM WHITNEY.....	Rochester
Term expires February, 1918	
CHARLES F. WRAY.....	Rochester
Term expires February, 1922	

OFFICERS OF THE BOARD

Mrs. WARHAM WHITNEY.....	President
THOMAS L. QUIGLEY.....	First Vice-President
GEORGE W. DUNN.....	Second Vice-President
EUGENE RAINES	Secretary
CHARLES F. WRAY.....	Treasurer

COMMITTEES OF THE BOARD

Executive

Ex-officio President, Secretary, and Chairman of each of the
standing committees

Agricultural

Managers Dunn, Peer, Barry and Chamberlain

Auditing

Managers Barry, Raines and Weet

Building

Managers Henry, Wray and McKie

Health and Sanitation

Managers Quigley, Lee and McKie

Instruction and Discipline

Managers Weet, Lyon and Roche

Parole

Managers Peer, Lockington and Chamberlain

The Manager first named on each committee is chairman

EXECUTIVE OFFICERS OF THE SCHOOL

DAVID BRUCE*Superintendent***PROF. MAURICE J. CARR***Assistant Superintendent***JESSE J. HERBISON***Steward***MISS HELEN M. SHATTUCK***Superintendent of Schools***FRED'K L. WRIGHT, M. D.***Physician***T. JOSEPH O'CONNELL, M. D.***Oculist and Aurist***ALFRED C. SHADDOCK, D. D. S.***Dentist***REV. ARTHUR O. SYKES, D. D.***Protestant Chaplain***REV. J. J. GANEY***Catholic Chaplain***Rev. MAX S. MOLL***Jewish Chaplain***ERASTUS MCPHEE***Supervisor Colony Farms***JAMES G. ROBERTSON***Inspector*



GENERAL HOSPITAL SHOWING NEW ADDITION TO RIGHT

MISS CERELIA L. COLLSON

General Matron

CHARLES E. EWING

Protestant Parole Agent

DON C. MANNING

Catholic Parole Agent

ROSTER OF EMPLOYEES

Officers' Staff

Lula A. Van Brunt.....	Clerk, Business Office
Clara L. Conrad.....	Clerk, Business Office
Lillian B. Banks.....	Stenographer
M. Agnes Flynn.....	Stenographer
Agnes B. Johnston.....	Stenographer
Frances M. McNamara.....	Stenographer
Agnes G. Waters.....	Junior Clerk
William F. Grady.....	Storekeeper
George F. Brandow.....	Storekeeper
Theresa McGough.....	Telephone Operator
Charles H. Goff.....	Parole Officer at Buffalo
Lewis H. Mott.....	Parole Officer at Syracuse
Algernon S. Crapsey.....	Parole Officer at Albany
Minnie F. O'Laughlin.....	Catholic Organist
George H. Stell.....	Protestant Organist

Colony Teachers

Anna L. Breen.....	Ahwaga and Haneayah
Nellie R. Quin.....	Seneca and Otesaga
Annie V. Finnegan.....	Genesee and Tayoga
Julia C. Ganiard.....	Algonquin and Onundaga
Julia McGraw.....	Oatka and Wyoming
Jennie Howell.....	Gaskosaga and Swenoga
Maud Ellis.....	Iroquois and Ohadi
Jennie McAuliffe.....	Ganono and Teugega
Cornelia J. Lillibridge.....	Neahga and Gadageh
Florence V. Foley.....	Ontario and Oageh
Myrta M. Sawdey.....	Irondequoit and Canawaugus
Anna B. McNamara.....	Ohagi and Ganeasos
Martha J. Conway.....	Tanawunda and Ganundaah
Mary E. George.....	Cayuga and Nundao
Anna M. Dowling.....	Huron and Ganayat
Jean R. Brandow.....	Oneida and Onalinda

General Teachers

Elizabeth C. Trussell.....	Freehand Drawing
Gertrude L. Davis.....	Vocal Music
Elizabeth L. Nelson.....	Manual Training and Crafts

Colony Supervisors and Matrons

Mr. and Mrs. Ulysses G. Spink.....	Ahwaga
Mr. and Mrs. Manley C. Oakes.....	Algonquin
Mr. and Mrs. George A. Bott.....	Canawaugus
Mr. and Mrs. Frank F. Herrick.....	Cayuga
Mr. and Mrs. Fred L. Beals.....	Gadageh
Mr. and Mrs. Fred A. Smith.....	Ganayat
Mr. and Mrs. William Vaughan.....	Ganeasos
Mr. and Mrs. Peter B. Cook.....	Ganono
Mr. and Mrs. Jas. R. Howard.....	Ganundaah
Mr. and Mrs. Chas. D. Baker.....	Gaskosaga
Mr. and Mrs. Jesse B. James.....	Genesee
Mr. and Mrs. Harry J. Murphy.....	Haneayah
Mr. and Mrs. Geo. T. Lockman.....	Huron
Mr. and Mrs. Scott O. Nielsen.....	Irondequoit
Mr. and Mrs. Elmer E. Alexander.....	Iroquois
Mr. and Mrs. L. J. McKenna.....	Neahga
Mr. and Mrs. Michael Maher.....	Nundao
Mr. and Mrs. Lysander Lincoln.....	Oageh
Mr. William H. Anderson and daughter.....	Oatka
Mr. and Mrs. Andrew T. Whalen.....	Ohadi
Mr. and Mrs. Caleb W. Hayes.....	Ohagi
Mr. and Mrs. Joseph E. Blauvelt.....	Onalinda
Mr. and Mrs. Henry T. Simonson.....	Oneida
Mr. and Mrs. P. J. Murtaugh.....	Ontario
Mr. and Mrs. Floyd I. Pratt.....	Onundaga
Mr. and Mrs. Edward S. Young.....	Otesaga
Mr. and Mrs. George S. Wilkinson.....	Seneca
Mr. and Mrs. Newton H. Baldwin.....	Swenoga
Mr. and Mrs. Mowry E. Skinkle.....	Tanawunda
Mr. and Mrs. Edwin Robinson.....	Tayoga
Mr. and Mrs. L. A. Reilly.....	Teugega
Mr. and Mrs. Hervey Walkley.....	Wyoming

Mr. and Mrs. Thomas McCowan.....	Vacation Relief
Mr. and Mrs. Carl A. Bornheimer.....	Two Day Relief
Mr. and Mrs. Robert S. Wilson.....	Two Day Relief

Engineers

Warren B. Graves.....	Chief Engineer
Earl L. Rittenhouse.....	Assistant Engineer
George B. Carroll.....	Assistant Engineer
Bernard Anderson.....	Assistant Engineer

Instructors

Fred A. Smith.....	Baking
Edward S. Young.....	Blacksmithing
J. Henry Van Dyne.....	Carpentry
James R. Howard.....	Carpentry
John T. Flanagan.....	Electrical Construction
Edwin Robinson.....	Laundrying
George T. Lockman.....	Machinery
Pierce W. Ritzenthaler.....	Masonry
Charles D. Baker.....	Milling
Peter B. Cook.....	Painting
Joseph I. Morgan.....	Printing
George A. Bott.....	Tailoring
Llewellyn J. McKenna.....	Tailoring
Fred B. Remington.....	Band

Guards, Day

Elmer E. Washburn.....	Ganundaah Cottage
Robert McGiven.....	Ganono Cottage
John M. Weidman.....	Huron Cottage
Theron H. Davis.....	Ganayat Cottage
Jas. E. Mulqueen.....	Otesaga Cottage
Bernice Anderson.....	Tayoga Cottage
E. J. Thompson.....	Teugega Cottage
William V. Stevens.....	Teugega Cottage
Clair M. Gere.....	In Charge of Creamery
Theodore Coe, Jr.....	Contagious Hospital
Fred Goldsmith.....	Neahga Cottage
Jas. B. Cummings.....	Relief Officer



FIELD OF OATS AT NUNDAO COLONY

Guards, Night

Bert Stevens.....	Oneida Cottage
William Hovey.....	Cayuga Cottage
John J. McKinney.....	Ganono Cottage
George W. Waters.....	Ganundaah Cottage
John Guinan.....	Administration Building
Delbert W. Edwards.....	Hospital
Matthew O'Brien.....	Huron Cottage
Walter Sanger.....	Otesaga Cottage
Ray A. Yeomans.....	Tayoga Cottage
John Rush.....	Ganayat Cottage
William F. Oakes.....	Neahga Cottage
Geo. W. Sexton.....	Gaskosaga Cottage
Wm. C. Asmuth.....	Teugega Cottage
Edward Holm.....	Teugega Annex
Benjamin Poirot.....	Canawaugus Cottage
Patrick J. Tully.....	Relief Officer

Supervisory and Kitchen

Mary E. Guinan.....	Matron, Hospital
Mrs. Theodore Coe, Jr.....	Matron, Contagious Hospital
Eveleen McCormick.....	Chief Nurse, Hospital
Sarah A. Jackson.....	Matron, Teachers' Cottage
Elizabeth J. Heubner...	Matron, Ogaritah and Wanetah Cottages
Emma McPhee.....	Matron, Gadao Cottage
Margaret Hickey.....	Matron, Administration Building
Emma Wickman.....	Cook, Teachers' Cottage
Sophie Kern.....	Cook, Hospital
Stella Brown.....	Waitress, Teachers' Cottage
Ruby Munson.....	Waitress, Teachers' Cottage
Susie B. Bowen.....	Waitress, Teachers' Cottage
Gertrude Rodenbush.....	Waitress, Hospital
Jennie D. Johnson.....	Cook, White Lodge
Mary G. Gaskin.....	Onetah Cottage

Farm and Grounds

Charles H. Zimmerman	Butcher
William P. Boyd.....	Carpenter
Chris. W. Ginegaw.....	Coachman
John H. Sharpe.....	Farmer

Special Appropriations Desired of the 1917 Legislature for the State Agricultural and Industrial School, Industry, N. Y.

(1) Extraordinary repairs and equipment..... \$12,750 00

ITEMS OF REQUEST FOR APPROPRIATION FOR REPAIRS AND EQUIPMENT

The following requests have been investigated by the Committee of the Board in charge and are made only after careful consideration:

(a) *Agricultural Implements* \$1,000 00

To provide for purchase of spring-tooth harrows, grain binders, mowing machines, hand and horse cultivators and sprayers which have been in use thirteen years and are in bad condition. (Investigated by Agricultural Committee).

(b) *Cobbling and Harness Repair Work*..... 1,200 00

This amount will be absolutely necessary to establish a department in which boys' shoes and harnesses may be repaired, at the same time instructing the boys in a useful occupation. (Investigated and approved by Committee on Instruction).

(c) *Farm Wagons* 2,000 00

To replace farm wagons which have been in use thirteen years, have been repaired from time to time but are in very bad condition and should be replaced. Also to purchase three dump wagons and one teachers' wagon. (Investigated by Agricultural Committee).

(d) *Furnishings, Superintendent's House*..... 1,000 00

This house has never been properly furnished, and the Superintendent has been obliged to provide much of the furniture and furnishings used therein. The new Superintendent could not be expected to furnish the house. (Approved by Building Committee).

(e) *Harnesses*..... 1,500 00

Required to replace harnesses at farm colonies which have been in use for thirteen years and are unsafe to use. (Investigated by Agricultural Committee).

(f) *Horses, Harnesses and Vehicles for Superintendent's Barn* 500 00

This has been furnished heretofore by the Superintendent. The present Superintendent having resigned, the new Superintendent cannot be expected to do so. The amount asked, which includes winter and summer rigs, is very moder-

ate. The Superintendent should have an automobile to enable him to cover the large acreage, it being three miles from his dwelling to parts of the farm. (Investigated by Agricultural Committee).

- (g) *Military Training* \$800 00

It is believed that there should be a return in part to the military training for the boys of this school. The setting-up exercises of the regular army have been introduced in all the cottages and a selected number of the older boys have been trained in the Butts Manual-of-Arms and minor military evolutions. It is the wish of the Board to arm and equip all of the older boys of the school, as it is believed that it will not only improve the boys physically, but will have a marked mental and moral effect on them. (Investigated and approved by Committee on Instruction).

- (h) *Painting* 1,000 00

Materials for painting buildings and silos. (Approved by Building Committee).

- (i) *Porch and Sidewalk Repairs*..... 500 00

Required to purchase cement to build new porches, replacing wooden porches which have rotted out, and to make repairs to sidewalks. (Approved by Building Committee).

- (j) *Repairs to Roofs, Shop Buildings, Storeroom and Creamery Buildings* 500 00

The roofs to these buildings have been repaired from time to time, and it is altogether probable that they will have to be replaced in full or in part by another year. (Approved by Building Committee).

- (k) *Roof and Conductor Pipe Repairs*..... 500 00

For materials and labor to repair and replace conductor pipes, eave troughs and valleys upon buildings. (Approved by Building Committee).

- (l) *School Supplies* 1,000 00

For the purchase of new books, maps, charts, etc., for use in the school room. There is a marked lack of good available reading for the boys. We are required to get the books for general reading from the State Library. These can be kept but a limited time, and as they are apt to be in poor condition after perusal by so many boys, our requests for books are not cordially received. It is of the utmost importance that the boys be encouraged in good reading. A special fund should be appropriated for this purpose.

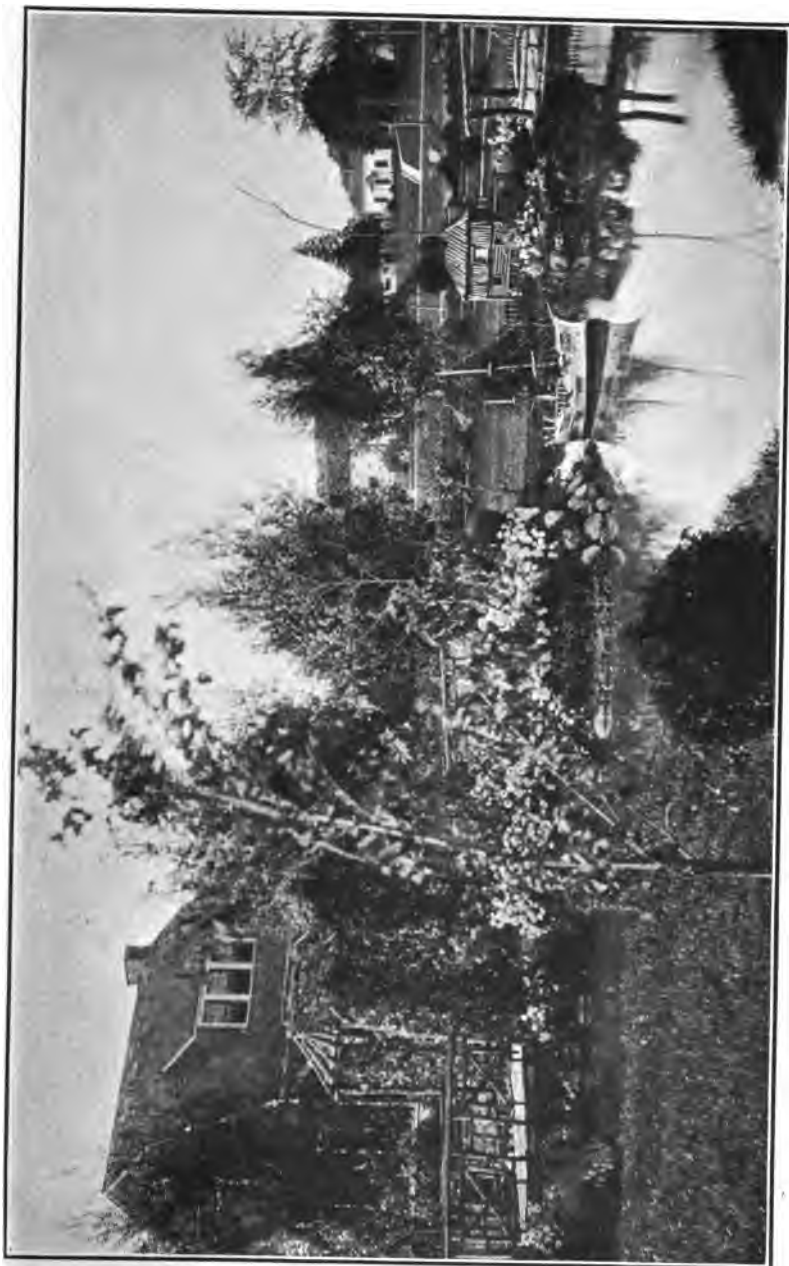
(m) <i>Two Additional Work Teams</i>	\$1,000 00
The school has not at the present time sufficient teams to properly do the work on the farms and repair work. (Investigated by Agricultural Committee).	
(n) <i>Window Screens and Screen Door Repairs</i>	250 00
This is needed to provide wire cloth, lumber and hardware necessary to repair screen doors and window screens at various buildings. (Approved by Building Committee).	
(2) <i>Furnishings for boys' new cottage</i>	\$1,800 00
(3) <i>Inferior repairs to Protestant Chapel</i>	2,500 00
(4) <i>One automobile truck, two ton</i>	1,800 00
(5) <i>Electric light and telephone extension</i>	500 00
(6) <i>Drain tile for farm</i>	1,000 00
(7) <i>Nursery stock and shrubs</i>	500 00
(8) <i>Purchase of additional land</i>	20,000 00
(9) <i>Building of coal trestle</i>	12,000 00
(10) <i>Tents and prizes for annual fair</i>	1,000 00
(11) <i>Repairs to and installing steam heat in Ogaritah, Waneta, steward's and inspector's cottages</i>	3,000 00
(12) <i>House for Protestant chaplain</i>	5,000 00
(13) <i>House for Catholic chaplain</i>	5,000 00
(14) <i>Electric pumping equipment for organs in Protestant and Catholic chapels</i>	900 00
(15) <i>New band instruments and repairs of old instruments</i>	500 00
(16) <i>Two new cottages for employees</i>	6,000 00

Remarks in Regard to Special Appropriations Set Forth in Above List

1. This amount will be absolutely necessary in order that the various buildings and farm machinery, wagons, harnesses and tools of all kinds can be kept in decent repair. The buildings, erected 9 years ago, were built of wood, and as everyone knows a building of this kind will need constant repairs such as shingling, repairs to conductor pipes and repairs to porches.

2. We will need at least \$1,800 to properly equip and furnish a new cottage for boys, the appropriation for which was granted by the last Legislature. This cottage will be completed during this coming winter.

3. At the present time, the Protestant chapel presents anything but a churchy appearance and it is our desire to change the interior by moving the organ and enlarging the organ loft and altering the present platform. The amount asked for will do the



GANONO COTTAGE AND LAKE

work and make the interior of this house of worship look like a chapel and not like a hall as it does at present.

4. This truck is to be used in transferring the teachers from the Administration Building to the various colonies. At the present time, two teams are used for this purpose, and as the colonies are at a great distance from the Administration Building, some of them being from one and one-half to two miles, a great deal of time is wasted as the teams are very slow. The use of this truck would transfer the teachers to the colonies very quickly and in addition to being used for this purpose could be used for delivering supplies from the storeroom to the various colonies. This work of delivering stores is done by a team. The use of the truck would do the work that three teams are now doing.

5. In a large lighting system such as we have at this School, and which covers a distance of three miles and lights over one hundred twenty-five buildings, there is always more or less repairing to be done. The new cottage which will be completed this winter will have to be connected up with our lighting system and we will need at least \$500 for this work and for the general repairs about the institution.

6. This tile is to be used in draining some of the farm lands which will be much more valuable when properly drained. We have put in considerable tile during the past few years and will need more to complete our work.

7. To be used to replace trees which have died in the orchards and to purchase shrubs.

8. It would seem that the school has sufficient land when it is stated that the State owns fourteen hundred thirty-two acres, but a large part of this land is occupied by buildings, roadways and recreation grounds and about six hundred acres of land is overflowed by the Genesee river each year and is rendered useless. It not only overflows this area of land in early spring but is very apt to flood the land at various times during the summer. We have about seven hundred acres of tillable land and it would be a great benefit to the State if this appropriation could be granted.

9. At the present time, we unload all the coal received on the ground where it lies exposed to the elements during the year. An estimate of a carpenter contractor for erecting a coal trestle

such as would be needed was \$12,000. This trestle could be used for housing the hard and soft coal and could be delivered from pockets directly into the wagons and thus save a great loss of coal which now occurs.

10. The annual fair is an important feature of the institution, the competition stimulating the boys to better work. It is also largely visited by the friends of the institution. As it is practically impossible to postpone the fair after the date is fixed it is necessary to have tents in which to house the live stock and poultry in case of inclement weather. The small expenses in connection with the running of the fair, such as wooden plates, ribbons, etc., must also be taken care of. It is necessary in order to stimulate the interest of the boys, to offer small prizes for the best crops, stock, etc.

11. The amount asked for is to be used in installing steam heat at Ogaritah, Waneta, the steward's and inspector's cottages, all of which, with the exception of Ogaritah, are now heated with old furnaces. They are not sufficient to keep the cottages warm in cold winter weather. This appropriation is very badly needed.

12 and 13. At the present time the Protestant and Catholic chaplains live in Rochester, a distance of some twelve miles from the school, being obliged to travel back and forth daily. It is the belief of the Board that the two chaplains should be at all times at the school available upon call.

14. The amount asked for will be necessary to install an electric pumping equipment for the organs in the Protestant and Catholic chapels. At the present time the organs are pumped by the boys, who work in relays. It is extremely hard work and the boys sometimes give out. Such an arrangement is very unsatisfactory. Competent organists, not in school employ, state that a satisfactory concert cannot be given on account of lack of power.

15. The appropriation for band instruments was sought for a number of years, but refused. The present instruments were finally given to us by the president of the Board and have more than proved their value in musical instruction which the boys of the band have received, and the pleasure given to the other inmates. The band will be even more important with the development of military training. We desire the appropriation to

increase the number of the band, replace instruments as they wear out, and to purchase distinctive uniforms.

16. The school at the present time has five of these cottages which are occupied by employees. These cottages were put up as an experiment and after some years it has been found that cottages of this kind are very necessary for the welfare of the school. It is hard to get employees who are willing to work here at the school and travel to and from the city. These cottages are rented to employees only and in the course of time will pay for themselves. It is hoped that this appropriation will be allowed.

Maintenance appropriation for the year ending

June 30, 1918..... \$235,000 00

This requested increase in our general maintenance appropriation is necessary to meet the increased demands of the institution, due to the increased prices of the commodities. The quantity of meat which we were able to purchase during the fiscal year of 1915-16 was insufficient to supply the demands of the school and as a result officers and inmates were placed on a very small allowance during the third quarter of the year, and for the last quarter we were able to purchase but very little, if any, meat for the institution. Also the wearing apparel of the inmates is deficient; this in particular was the case regarding underwear and stockings. Many of the boys were obliged to go without stockings during the time the only pair available for use was washed and dried. The furnishings of many of the cottages need replacing as it is badly worn as a result of constant usage covering a period of twelve or thirteen years. We feel therefore in making this request for \$235,000 for maintenance that we are not asking for too much with which to carry on the important work of the school in keeping with the requirements of the State Charities Department.

REPORT OF THE TREASURER

To the Board of Managers:

I herewith submit the Treasurer's report for the fiscal year ending June 30, 1916:

GENERAL FUND — MAINTENANCE

Receipts

Cash on hand October 1, 1915.....	\$823 20	
From Comptroller, maintenance appropriation, Chapter 725, Laws of 1915.....	180,500 00	
From sale of farm products, old material, etc....	1,658 95	
		\$182,982 15

Disbursements

Salaries of officers and employees..... \$95,711 76

Provisions —

Breadstuffs and cereals.....	\$8,463 59	
Beverages	778 07	
Dairy products	463 52	
Fish, fresh . . . . .	.....
Fish, salt and canned.....	809 33	
Meats, fresh	5,832 52	
Fruits, dried	303 29	
Fruits, fresh	98 30	
Spices, extracts, etc.....	122 09	
Sugar, syrup, etc.	1,965 03	
Vegetables, canned	167 18	
Vegetables, dried	150 78	
Vegetables, fresh	628 02	
Yeast, baking powder, etc.....	382 96	
Miscellaneous	799 27	
		20,963 95

General Supplies —

Brooms, brushes, mops, etc.....	\$284 36	
Dining room supplies.....	1,010 11	
Kitchen supplies	360 02	
Laundry supplies	718 93	
Soaps and cleaners.....	287 58	
Toilet articles	431 18	
Towels and towelings.....	441 94	
Miscellaneous	800 15	
		4,334 27

Farm and Garden —

Feed for horses.....	\$560 00
Feed for cattle.....	2,413 23
Feed for hogs.....	489 53

Feed for poultry.....	\$868 70	
Fertilizers	661 55	
Implements and tools.....	580 88	
Live stock	20 00	
Machinery .....	.....
Seeds, plants, etc.	1,882 74	
Stable maintenance	479 15	
Wagons, sleighs and harness.....	384 15	
Miscellaneous	1,217 44	
	<hr/>	\$9,557 37

Clothing —

Clothing, ready made.....	\$966 92	
Footwear, ready made.....	6,531 38	
Material for clothing.....	4,591 72	
Material for footwear.....	72 20	
Miscellaneous	518 08	
	<hr/>	12,680 30

Furniture and Furnishings —

Bedding	\$4,726 99	
Furniture, new .....	.....
Furniture, repairs	32 59	
Miscellaneous	769 20	
	<hr/>	5,528 78

Transportation of Inmates —

Transportation of inmates.....	\$3,006 75	
Rewards and expenses.....	197 00	
	<hr/>	3,203 75

Fuel and Light —

Fuel	\$14,309 27	
Light	3,504 37	
	<hr/>	17,813 64

Ordinary Repairs and Shops —

Repairs to buildings.....	\$123 72	
Blacksmith shop	260 71	
Carpenter shop	228 72	
Electrical shop	242 37	
Engineering	882 28	
Machine shop	40 90	
Mason shop	243 03	
Paint shop	1,153 38	
Bakery	69 54	
Butcher shop .....	.....
Creamery	78 89	
Grist mill .....	.....
Laundry	34 70	
Printing shop	64 15	
Tailor shop	61 18	
	<hr/>	3,483 57

Medical Supplies —

Dental supplies and instruments...	\$26 02	
------------------------------------	---------	--

Glassware, rubber goods and druggists' sundries	\$48 63	
Laboratory supplies .....	.....
Medical books and periodicals....	.....
Oculist's supplies and instruments.	1 35	
Pharmaceutical preparations, drugs, oils and chemicals.....	196 40	
Surgical instruments and appliances	12 15	
Miscellaneous	128 28	
		\$412 83
Miscellaneous —		
Books and periodicals.....	\$84 60	
Entertainment, etc.	728 29	
Educational, industrial	34 55	
Educational, scholastic	178 95	
Transportation	516 31	
General administration	3 25	
Photography	1 56	
Postage	465 00	
Printing and advertising.....	40 50	
Stationery	452 71	
Special medical services.....	50 00	
Telephone and telegrams.....	276 12	
Traveling expenses	608 06	
General items	168 19	
	\$3,608 09	
Less cash discounts.....	116 79	
		3,491 30
Lawns, Roads and Grounds —		
Seeds, lawn and ground.....	.....
Seeds, flower, plants and bulbs....	\$82 86	
Implements and tools.....	105 84	
Roads: Implements and tools....	.....
		188 70
Total cost of maintenance.....	\$177,370 22	
Miscellaneous receipts remitted to State Treasurer, pursuant to Section 37, Chapter 413, Laws of 1897		1,658 95
Remitted to State Treasurer, balance of appropriation, Chapter 529, Laws of 1914.....		815 29
Total disbursements	\$179,844 46	
Cash on hand July 1, 1916.....	3,137 69	
		\$182,982 15
SPECIAL FUND		
<i>Receipts</i>		
From Comptroller, under special appropriations.....		\$13,655 81

Disbursements

Agricultural developing	\$302 10
Alterations and addition to hospital.....	5,724 14
Drain tile	162 50
Extraordinary repairs and equipment.....	1,128 06
Farm drain tile.....	316 39
Furnishings for addition to hospital.....	917 52
Installation of electric motors.....	716 81
Piping and water mains.....	1,291 75
Repairs to barns.....	1,995 91
School books and apparatus.....	247 88
Sewage disposal	753 19
Tents and prizes.....	99 56

Total disbursements	\$13,655 81
---------------------------	-------------

Respectfully submitted,

CHARLES F. WRAY,

Treasurer.

REPORT OF THE SUPERINTENDENT

To the Board of Managers:

I herewith submit Superintendent's report for the fiscal year ending June 30, 1916:

STATISTICS

Movement of Population

Number of inmates in the School October 1, 1915.....	731
Number of inmates admitted during the fiscal year.....	504
Received on new commitments.....	378
Re-commitments	14
Returned for violation of parole.....	56
Returned escapes	56
Number of inmates discharged during year.....	436
Paroled to parents or guardians.....	345
Paroled to employers.....	68
Discharged by court order.....	3
Died	1
Surrendered to court.....	4
Sent out of State.....	14
Returned to Helper's Home.....	1
Escapes	63
Number of inmates in School July 1, 1916.....	736

New commitments were from counties as follows:

Albany	9	Cortland	1
Broome	14	Delaware	9
Cattaraugus	7	Dutchess	12
Cayuga	7	Erie	39
Chautauqua	13	Franklin	8
Chemung	4	Fulton	5
Chenango	4	Genesee	9
Clinton	8	Herkimer	2
Columbia	5	Jefferson	10

Livingston	5	Schuyler	1
Madison	3	Seneca	1
Monroe	13	Steuben	10
Montgomery	9	Suffolk	4
Nassau	22	Sullivan	1
Niagara	9	Tioga	3
Oneida	12	Tompkins	7
Onondaga	26	Ulster	2
Ontario	13	Warren	2
Orange	4	Washington	6
Orleans	4	Wayne	3
Oswego	5	Westchester	13
Otsego	1	Wyoming	5
Rensselaer	4	Yates	3
Saint Lawrence	10		
Saratoga	14		392
Schenectady	11		

List of Offenses for Which Boys Were Committed in the Year
1915-1916

Destitute child	2
Deserting home	6
Disorderly child	18
Held as witnesses	2
Improper guardianship	15
Juvenile delinquency	188
Keeping company of dissolute persons	3
Malicious mischief	1
No home	4
Pointing fire-arms	1
Ungovernable	149
Vagrancy	3
	392

Received on New Commitments

Under the age of 12	70
Under the age of 13	53

Under the age of 14.....	59
Under the age of 15.....	107
Under the age of 16.....	103
	<hr/>
	392
	<hr/>

Parental Relations

Lost father	55
Lost mother	47
Lost both	18
Parents living separated	60
Parents living together	209
Unknown	3
	<hr/>
	392
	<hr/>

Religion

Protestant	183
Catholic	207
Hebrew	2
	<hr/>
	392
	<hr/>

Nativity of Children

American	323	Italian	22
American Negro	8	Polish	4
Austrian	9	Russian	3
Austria Hungarian	2	Russian Polish	4
Austrian Polish	2	Sicilian	1
Bulgarian	1	Unknown	3
Canadian	6	West Indian	1
English	1		<hr/>
German	1		392
Irish	1		<hr/>

Nativity of Parents

American	177	English and Irish	1
American Indian	2	French	3
American Negro	8	French and Canadian	3
American and Swedish	1	French Canadian	2
American and Canadian	7	German	9
American and English	2	German Pole	14
American and French	1	German and Lithuanian	1
American-French Canadian	2	Indian Half-breed	2
American and Danish	1	Irish	21
American and German	8	Irish and Slavish	1
American and Irish	4	Irish and Swedish	1
American and Italian	3	Italian	58
American and Belgian	1	Polish	21
American and Polish	5	Polish and German	2
American and Scotch	1	Russian Jew	2
Assyrian	1	Russian Pole	9
Austrian and German	1	Russian Pole and Austrian	1
Austria-Hungarian	10	Russian Pole and German	2
Austrian Pole	7	Scotch	2
Canadian	2	Scotch and Canadian	1
Canadian and English	2	Scotch and English	1
Canadian and Irish	1	Welsh	1
Canadian and Italian	1	West Indies	1
Dutch	1		
East Indies	1		392
English	2		

Character of Home

Bad	71	Poor	137
Comfortable	4	Very bad	6
Fair	119		
Good	29		392
Neglected	4		
No home	22		

Social Relations

Brother, arrested	92
Father Baker's	2
House of Providence, Syracuse	1

St. Vincent's, Utica	1
Orphan Asylum	2
Onondaga Orphan Home.....	1
In Elmira Reformatory.....	3
In jail	1
Insane	2
Tubercular Hospital	1
Epilepsy	5
State Agricultural and Industrial School.....	42
Cousin in Utica State Hospital.....	1
State Agricultural and Industrial School.....	2
Arrested	1
Father, arrested	81
Intemperate	221
Penitentiary	1
Jail	3
State Hospital	2
Tubercular Hospital	1
Mother, arrested	13
Intemperate	21
State Hospital	3
Epilepsy	2
Sister, arrested	4
Insane	2
St. Ann's, Troy	1
House of Good Shepherd.....	1
Troy School	3
Home of Friendless.....	1
Epilepsy	1
Uncle, State Hospital	2
Epilepsy	1
Grandfather, arrested	2
State Hospital	2
Aunt, epilepsy	1

In Other Institutions Previous to Commitment

Albany Orphan Asylum.....	3
Batavia Blind School.....	1
Buffalo Orphan Asylum.....	2

Brooklyn Home	2
Binghamton Orphan Asylum.....	1
Canandaigua Orphan Asylum.....	1
Children's Home, Cortland.....	1
Cayuga County Orphan Asylum.....	3
Cooperstown Home	1
Elmwood Home	2
Elmira Orphan Home.....	2
Father Baker's	24
Feeble-minded Institution, Syracuse.....	1
Glen Mills School, Pa.....	1
George Junior Republic.....	1
House of Providence, Syracuse.....	3
Jail	45
Jefferson Farm School.....	1
Lancaster School, Ohio.....	1
Lutheran Home, Jamestown.....	1
Lockport Home	1
Manassas Industrial School.....	1
Masonic Home, Utica.....	1
Mineola Home	1
Newburg Home	1
New York Parental Asylum.....	1
N. Y. Catholic Protectory.....	2
Onondaga Orphan Asylum.....	1
Rome State Custodial Asylum.....	1
Riverdale Asylum	1
Peekskill Home	1
St. Mary's Home, Binghamton.....	2
St. Mary's Home, Baltimore.....	1
St. Mary's Home, Dunkirk.....	1
Susquehanna Valley Home.....	1
Staten Island Home for Friendless Boys.....	1
St. Vincent's Home, Utica.....	8
Schenectady Orphan Asylum.....	1
State Agricultural and Industrial School.....	14
Troy Catholic Orphan Asylum.....	3
Troy Brothers' School.....	3
Troy Orphan Asylum.....	6

Truant School	16
United Helpers' Home.....	1
Vermont Industrial School.....	1
Watertown Orphan Asylum	1

Owing to the fact that the Legislature changed the ending of the fiscal year from September 30th to June 30th, this report covers a period of but nine months; therefore only the essential parts of the report, such as Treasurer's report and statistics.

During the last session of the Legislature an appropriation was given the school amounting to \$15,000 for enlarging the underpass at the Lehigh Valley Railroad and putting in an overhead crossing at the Erie tracks which cross the south end of the State farm. The elimination of this grade crossing will remove a source of constant danger to the officers and boys who are in the habit of using this crossing many times during the day and night. The matter of doing this work has been taken up with the Superintendents of the Lehigh Valley Road and the Erie Road and the plans and specifications are being prepared by the engineers of both roads so that the work will be begun at an early date and will no doubt be finished before the fall. Every effort has been made by the Board of Managers and the Superintendent through correspondence and personal interviews with the superintendents of the roads to hurry this work along.

The Legislature of 1916, without reference to any action of the Board of Managers and without notice to the Board of its proposed action, failed to make an appropriation for the position of assistant superintendent of this school. The Board of Managers at this time registers its resentment and protest against this action which deprived the assistant superintendent of the school of his salary. The services of this officer being necessary to the school, he has, at the direction of the Board of Managers, continued to serve without salary with the hope that the oversight on the part of the Legislature in providing for his salary will be cared for at its next session, and also that an amount sufficient to cover the salary of the assistant superintendent be included in the maintenance budget for the coming fiscal year.

Respectfully submitted,

DAVID BRUCE,

Superintendent.

SIXTEENTH ANNUAL REPORT

OF THE

**New York State
Reformatory for Women**

AT BEDFORD

For the Year Ending July 1, 1916

TRANSMITTED TO THE LEGISLATURE JANUARY 1, 1917

**ALBANY
J. B. LYON COMPANY, PRINTERS
1917**

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NEW YORK STATE REFORMATORY FOR WOMEN, BEDFORD

BOARD OF MANAGERS

James Wood, President.....Mt. Kisco, N. Y.
Mrs. Henry Marquand, Secretary.....Bedford Hills, N. Y.
William G. Barrett, Treasurer.....Katonah, N. Y.
Charles H. Turner.....Albany, N. Y.
George Robinson.....Bedford, N. Y.
Mrs. J. Borden Harriman.....Mt. Kisco, N. Y.
Miss Mary Garrett Hay.....New York City, N. Y.

SUPERINTENDENT

Mary Rebecca Moore

EXECUTIVE STAFF

Helen A. Cobb.....*Assistant Superintendent*
Julia A. Minogue.....*Second Assistant Superintendent*
Margaret S. Halleck, A. B., M. D.....*Resident Physician*
Orie M. Grover, M. D.....*Assistant Physician*
Susan A. Ellison.....*Chief Parole Officer*
Belle Murphy.....*Assistant Parole Officer*
Ella J. Skeahan.....*Marshal*
Ida J. Murphy.....*Principal of Schools*
Mary C. Sprague.....*Steward*
Ira M. Fish.....*Chief Engineer*

LABORATORY OF SOCIAL HYGIENE

January 1, 1917

Mabel R. Fernald, Ph. D.....*Psychologist and Director*
Almena Dawley, M. A.....*Sociologist*
Mary H. S. Hayes, Ph. D.....*Associate Psychologist*
Buford J. Johnson, Ph. D.....*Assistant Psychologist*
Mary A. Clark, M. A.....*Statistician*
Veda Elvin.....*Field Worker*
Edith R. Spalding, M. D....*Director of the Psychopathic Hospital*
Cornelia B. J. Schorer, M. D.....*Psychiatrist*

CONSULTING STAFF OF THE LABORATORY OF SOCIAL HYGIENE

James Rowland Angell, August Hoch, M. D.
Rufus Cole, M. D., Adolf Meyer, M. D.,
Simon Flexner, M. D., Starr J. Murphy,
Elmer Ernest Southard, M. D.

STATE OF NEW YORK

No. 21

IN SENATE

JANUARY 24, 1917.

REPORT

To the Legislature of the State of New York:

Owing to the change of the date of closing the fiscal year of the State institutions this report covers the nine months from October 1, 1915, to June 30, 1916. During this period there has been one change in the membership of the Board of Managers. The term of David Cromwell expired in February and George B. Robinson was appointed to fill the vacancy. Mr. Cromwell served the Board during his term with the same ability he had conspicuously shown in the responsible positions he had held in the public affairs of the county and which he shows as the head of important financial institutions. Mr. Robinson's extended experience in matters of charity and correction will undoubtedly prove of great value to the Reformatory.

The most important event of the period connected with the Staff of the institution was the resignation of Mary Rebecca Moore as Superintendent. Her resignation was presented to the Board at its regular meeting in June. The Board unanimously requested her to withdraw the resignation, but she felt that the continuous strain of the work required her to seek relief, and her resignation was afterward accepted with regret. Miss Moore had served the institution as Assistant Superintendent for eight years and as Superintendent for two years and a half. During all this period she had shown marked executive ability and a self-sacrificing devotion to her

work. During her administration a great amount of construction was carried on which made her duties of increased difficulty and the more exacting. She had the confidence of the inmates to an unusual degree and they expressed much regret at her leaving the institution.

Previous to Miss Moore's departure, Miss Evelyn H. Ellis resigned her position as Assistant Superintendent, and Miss Anna B. Godwin had resigned the position of Second Assistant Superintendent because of ill health. Miss Moore had filled these latter positions by appointing from the civil service list Miss Helen A. Cobb to the position of Assistant, and Miss Julia A. Minogue to that of Second Assistant Superintendent. When Miss Moore's resignation took effect these officials were promoted to the positions of Superintendent and First Assistant Superintendent respectively.

There were no other important changes in the staff.

On October 1, 1915, the number of inmates was 402, and on June 30, 1916, it was 380. The operation of the system of parole by the courts has resulted in otherwise disposing of the higher class of the commitments previously sent to the Reformatory, while the proportion of those of subnormal mentality and those bordering on insanity has been increased. This has greatly increased the difficulty of administration. Twenty-five or thirty of the latter class impose more care and make greater trouble than the care and training of three or four hundred normal individuals. Much of this labor is practically thrown away upon these as many of them are entirely incapable of being benefited by the training of the institution. While the law gives us authority to decline to receive such persons we cannot know who come under this provision until they are accepted and proven. It is urgently necessary that the State provide institutions to which these can be transferred.

The health of the inmates has continued to be remarkably good, considerably above the average of the population of the State. There has been one death of an inmate during the nine months and that was from disease already far advanced when she came to the institution. The health of the infants continues to be extraordinary. There is an average of from twenty-five to thirty infants below two years of age. They are transferred from the hospital to the nursery cottage so soon after birth as their mothers are in a condition to move. For a period of over three years not a death has occurred.

During the epidemic of infantile paralysis it was deemed necessary to quarantine the institution and no visitors of the inmates were admitted to the grounds.

Since the occupation of three of the new cottages one of the old cottages has been greatly altered in interior arrangements and is occupied as a staff house for officers who formerly occupied rooms in cottages with inmates. Such mixture never proved satisfactory. Now these officers live in a social atmosphere which greatly aids them in the performance of their work.

The new sewage disposal plant is proving very successful. It was originally designed for electrical treatment but that system was abandoned before installation. We now use chemical treatment and filtration. Its operation is closely watched by inspectors of the New York City Water Supply who express their entire satisfaction with its working. Indeed, it has been found that the water of Broad brook is purer below the institution than it is above it.

The reports of the Superintendent, the Medical Staff, the School Department and the Farmer are attached hereto, as also is the report of the Bureau of Social Hygiene.

Respectfully submitted,

JAMES WOOD,

President.

KATHERINE C. MARQUAND,

Secretary.

TREASURER'S REPORT

JUNE 30, 1916.

Special appropriations received from State Treasurer. \$50,399 05

Payments were made from the following appropriations:

Laws of 1914

Sewage disposal plant..... AA \$11,815 49

Laws of 1915

Boiler house, Farm Group..... K 4,415 31

Electric plant I 2,214 63

Feeder cables and electric wiring J 1,418 13

Filtration plant F 5,845 00

Furnishing seven cottages and
hospital A 8,365 38

Hospital D 474 68

New boiler house..... L 9,893 75

New boilers and piping..... G 1,741 70

One new cottage..... O 307 11

Three fireproof cottages..... B 2,341 22

Three fireproof cottages, F. G... C 1,433 70

Water supply E 132 95

50,399 05

Maintenance appropriation:

Balance on hand October 1, 1915..... \$3,711 07

Received from State Treasurer..... 112,450 00

\$116,161 07

Expenditure and per capita cost were as follows:

	Total	Per Capita	Daily Per Capita
Off. and Emp.....	\$42,628 54	110.029	.3006
Provisions	20,607 90	53.191	.1453
General supplies	3,847 86	10.189	.0278
Farm and garden.....	9,760 33	25.192	.6883
Clothing	4,251 28	10.973	.0299

	Total	Per Capita	Daily Per Capita
Furniture and furnishings..	\$1,137 63	2.936	.0080
Transportation	2,070 41	5.343	.0014
Fuel and light.	13,265 12	34.189	.9341
Ord. Rprs. and Shops.	9,102 70	23.495	.6419
Medical supplies	291 71	.752	.0025
Miscellaneous	8,797 99	22.708	.0620
L. Roads and Gds.	127 76	.329	.0008
	<hr/> \$115,989 23	<hr/> 296.765	<hr/> .8108
Average daily population.			387.43
Average daily cost for support. . . . .			.8108
Average weekly cost for support.			5.675

RECAPITULATION

Balance on hand Oct. 1, 1915.	\$3,711 07	
Received from special appropriations	50,399 05	
Received from general appropriations	112,450 00	
Miscellaneous receipts	80 16	
	<hr/>	\$166,640 28
Paid from special appropriations. . .	\$50,399 05	
Paid from general appropriations. . .	115,989 23	
Remitted to State Treasurer, miscl. .	80 16	
Remitted to State Treasurer.	171 84	
Balance on hand June 30, 1916. . . .	00 00	
	<hr/>	166,640 28

Respectfully submitted,
 WILLIAM G. BARRETT,
Treasurer.

ANNUAL REPORT OF THE SUPERINTENDENT

To the Board of Managers of the New York State Reformatory for Women, Bedford Hills, N. Y.:

LADIES AND GENTLEMEN.—The office equipment has had many valuable additions. A long-felt need of more systematic records of our parole work has been formulated, making available an up-to-date knowledge of the parole situation. A set of steel files has been allowed for this purpose. The movement of population has also been most carefully systematized and additional steel files for this have been allowed.

Among the new equipment we have a motor truck of 3½ tons, a double-faced tent, 18x30 ft. for the babies, materials for a high fence, 210x60, to inclose recreation grounds in the rear of Rebecca Hall, for the use of the girls who should not enjoy the privileges of the campus until they have been earned.

Money for important repairs in plumbing and roofs, and for wire screens and doors to the Administration Building, Staff House, Farm and Store House has been allowed.

For the farm we have been allowed repairs on farm barn, a propagating house, colony houses for pigs, incubator brooders, potato planter, hay rake, grain drill, sulky cultivator and truck wagon. Five thousand strawberry plants, 6,000 red raspberry, 2,000 black raspberry, 1,000 rhubarb, 300 currant bushes, and hundreds of fruit bearing trees have been planted. Money for clearing up a large field of boulders and choke cherries and ploughing of same for a new young apple orchard, also 350 rods of wire fencing to replace tumble-down stone walls, and a horse and carriage for the farm superintendent's exclusive use has been allowed.

The schedule of religious services has been as follows, viz.:

Saturday from 11 A. M. to 3:30 P. M., instruction by the Jewish visitor.

Saturdays in summer and Sundays in winter, Mass for the Roman Catholics with confession and communion at the discretion of the priest, Rev. Father Kelly, assisted by Rev. Father Falco. Sisters Mary Xavier and companion continue their religious instruction.

Protestant Sunday School at 10 A. M.

Jewish services conducted by Rabbi Lewis at 11 A. M.

Protestant services at 3 P. M. in Assembly Hall and at 4 P. M. in Elizabeth Fry Hall. Rev. Father Officer continues his instructions for the Episcopal girls.

The Church Mission of Help continues its relation with us, Mrs. Powell replacing Miss Godwin when she became Assistant Superintendent. Rev. Mr. Watkins of Protestant Episcopal Mission, New York, conducts services the first Sunday of the month, and Mr. James Wood the fourth. The remaining services are conducted by clergy of the different denominations, Rev. Richard Carr, Rev. Mr. Hunt, Father Officer, Rev. Mr. Bridges, Rev. Mr. Ross.

From our school faculty Miss Lillibridge, who was with us for eight years, was transferred to Industry. She was replaced by Mrs. Ida Turner, a teacher of many years' experience and admirably suited to our work.

In addition to the gymnasium periods of each school class, the physical instructor visited each sewing room for about ten minutes during each session and gave the girls exercises and games with all the windows open. The physical instructor also conducts the fire drills and demonstrated that a cottage can be emptied in one minute though the girls were locked in their rooms.

There have been many improvements in the school building, completing the cooking school outfit, fitting up the locker room as an extra class room, and a larger room in the basement fitted up with stacks and now used as a central library from which books are issued to all of the cottages.

Dr. Grover has conducted a class of thirty in physiology one hour on Saturday afternoons.

During the months of January, February and March, Miss Miller, our teacher of agriculture, gave regular lessons in scientific agriculture. On a few occasions all of the girls have been given talks on current events in Assembly Hall.

INDUSTRIAL CLASSES

A. M.

8:30-11:40

Model class (elementary sewing).....Miss Fischer
Sewing room 1 (suit and parole outfits).....Miss Winspear

Sewing room 2 (institution dresses).....	Miss Neville
Shop (repair room).....	Mrs. Turner
Cooking classes (2).....	{ Miss Davey Miss Smith

P. M.

1:15-4:30

Model class	Miss Fischer
Sewing room 1.....	Miss Winspear
Sewing room 2.....	Miss Neville
Sewing room 3 (underwear and house linen).....	Mrs. Newton
Cooking classes (2).....	{ Miss Davey Miss Smith

New girls who know nothing of sewing are placed in the model or elementary sewing class for a four months' course. The work of this class consists of all the different kinds of stitches and their uses, some knitting and crocheting, and as much garment making as time allows. All the rag rugs used in the institution are made in this class room. We are hoping to secure another large loom and a few small ones on which to weave towels, etc. While the making of our institution stockings has been discontinued, we use the stocking machine for knitting lengths which are made into mittens for the winter outdoor work. "Work" hats are also made in this class from whatever tea matting we are able to obtain.

After a course in model class, girls are promoted to the class in plain sewing, or dressmaking, or parole outfit making, according to ability shown. A small number of girls who come to us with some knowledge of sewing are placed directly in a higher class, but most of the girls reach there through promotion.

During the fall of 1915, when harvesting and cement walk making were both going on, not only the school but many of the industrial classes were called upon to help, the result being that our sewing is still greatly in arrears. Now that the farm is being supplied with the necessary equipment, these classes may go on with very much less interruption.

The school shop has done excellent work this year in keeping up with the wear and tear of the institution. It continues to be an honor class where the girls are allowed more freedom than is possible in other classes.

Since January 1st a small class of girls has been helping in the main laundry. They do the mangling, folding, and some of the ironing. We are glad to have this work for them as there is little opportunity, especially for girls in cottages which have no laundry, for learning to do laundry work, except in the cases of girls who are in the R. H.

DOMESTIC SCIENCE DEPARTMENT

A plan which was under consideration at the close of last year has been in operation since March and is proving a success, which was that there should be a second cooking teacher. While one of the teachers is in the class room the other is in a cottage having the kitchen work done by the girls of that house who are in the regular cooking classes. By this plan the girls are taught cooking and serving in a more practical way than is possible in their one and a half hour lessons at school and the teachers feel that their pupils benefit much more during the term's work.

SCHOOL CLASSES

A. M.

8:30-11:40

Advanced (6th-8th grades).....Miss Coventry.

P. M.

1:15-4:30

Prim. and inter., alternating with adv., E. F. H...Miss Hoffman

Intermediate (4th-6th grades).....Miss Coventry

Primary (1st to 4th grades).....Mrs. Turner

The 118 girls who were placed in classes since October 1st had attained the following grades before coming here:

Girls who have never attended school.....	7
Girls who attended school in Europe but not in U. S.....	1
Number who had reached 1st grade.....	4
Number who had reached 2d grade	1
Number who had reached 3d grade	14
Number who had reached 4th grade	9
Number who had reached 5th grade.....	19
Number who had reached 6th grade	24

Number who had reached 7th grade.....	22
Number who had reached 8th grade	15
Graduated from grammar grades.....	8
Attended high school, one year.....	2

The primary class is being kept in school because these girls need to learn to read and write. The intermediate class is kept in session as much as possible, but most of the outdoor and farm work is done by the girls from this and the advanced school. One big piece of work done by these girls during the winter was the remodeling of the Staff House. They tore down all the walls except four brick walls, carried out and dumped tons of brick, laths and plaster, and have done all the other work except the carpentering.

During the year money has been donated which has made it possible to undertake more games, both indoor and outdoor. The additional equipment consists of a pair of jumping stands, eighteen hockey balls, and a volley ball set.

The matter of school discipline has required constant effort but there have been few cases which necessitated the attention of the disciplinarian. The school year has been one of increased effort and better results and reflects great credit upon the principal.

The greatest change in the institution has been the placing of girls in Rebecca Hall in single rooms and reducing the numbers to a population of seventy from one hundred and sixty-six, and I trust the time is not far distant when that inadequate building will either be torn down or its character changed.

MISCELLANEOUS

Visitors

Governor Whitman with Captain Spencer, Mr. Lord and Deputy Comptroller Hinman, went over the entire institution and inspected especially our new sewage disposal plant.

Hon. William A. Mallory, Fiscal Supervisor, and Mr. Thomas Lee, the deputy, paid us three visits.

President Solomon of the Prison Commission; Mr. and Mrs. Seabury Mastic; Father Gorman of the Brooklyn Department of Charities; Dr. Wilson, Chairman of the Child Labor Commission of Detroit; Dr. Smith, Superintendent of the Texas Reformatory,

and a physician, Dr. Hare; Mrs. Josephine Dascomb Bacon who gave the girls' Red Cross Club an address; Mrs. Worthington with two parties from the School of Philanthropy; members of the Stanford University, California, interested in social legislation; Dr. Snow, Secretary of American Social Hygiene Association, and Dr. Yarrus of Hull House, Chicago; members of the Minnesota Board of Institutions; Mr. Charles H. Strong, conducting an investigation of the State Board of Charities; Mr. Harris of the Board of Control of Wisconsin; Trustees from the proposed Maryland Reformatory; Mrs. Winston Churchill; Miss Adams, of the House of Detention, Chicago; Mrs. Graves, executive secretary of the Brooklyn Probation Association; and eleven teachers of special groups; Mrs. Norris and Mrs. Craigen, chairman of the Probation Committee of the New York City Federation of Woman's Clubs; Mrs. Brownell, Probation Officer of Springfield, Mass.; and numberless others seeking information, advice and inspiration were visitors at the Institution. Mr. McConnell of the Board of Control of Iowa, with their State Architect; Professor Gilman of the University of Wisconsin spent New Years, enjoying the annual reception.

The Red Cross Club under direction of Mrs. Frank Bishop and Mrs. Henry Wainwright Howe has done a valuable work. The Currents Events Club for the officers, Dr. Halleck as director, has been much enjoyed.

Thanksgiving Day was given up to football and other games, a fine dinner at noon and dancing through the evening.

"Birds' Christmas Carol" was given at Christmas and repeated for our friends in the neighborhood. The comedy of "Mister Bob" and the operetta "Pinafore" were given in the spring. We had moving pictures twice a week for months. Our usual New Year's all day reception was given with dancing. On St. Patrick's Day Mr. Wood gave an address on St. Patrick which was followed by a concert and fancy dances. Decoration Day was observed by competitive games of hockey and high jumping. All the girls were assembled on the upper campus where the Bedford band gave us a number of selections for dancing after the games.

DONATIONS

From Mr. James Wood, money for several weeks of moving pictures, celery plants, holly and ivy for Christmas, and flowers for

nearly every Sunday in the year; Miss Lena Wood, 100 jars of jam and jelly; Mrs. Goodrich, boxes of hats, dresses and shoes for the property room; Mrs. Henry Marquand, one evening of moving pictures of the French Aviation Corps; Dr. and Mrs. Swift, a pianola; Mrs. LeFevre, 100 records; Katonah and Bedford Hills Public Libraries, books and magazines; Aeolian Company, four pianos, victrolas for Farm, Nursery and Turner.

Respectfully submitted,

MARY REBECCA MOORE,

Superintendent.

PHYSICIAN'S ANNUAL REPORT

OCTOBER 1, 1915, TO JULY 1, 1916.

To the Honorable Board of Managers:

LADIES AND GENTLEMEN.—Since our report of October 1, 1915, we have opened a new hospital which is equipped to care for both surgical and medical cases. We are very fortunate in having three local surgeons, Dr. Charles Chapman, Dr. George Coopernail, and Dr. Briggs, who are willing to come to us at any time. We have hoped that a "recent law" would be tested and found to hold good, so that we could make use of it to the benefit of society.

Our Psychopathic Laboratory is demonstrating the great need of prevention and making it so plainly necessary that every intelligent person readily agrees that two methods should be followed. Yet our great Empire State keeps on letting cases increase and tying the hands of those who would gladly assist in lessening the need of custodial care. This Reformatory will never accomplish its mission until we who work here are allowed to use all the humane methods of prevention known.

One hundred and twenty women have been committed to us during the last nine months and seven infants under one year old brought in. Eight living babies have been born.

Our new nursery has been open nine months. The house itself is roomy and pleasant, and a large yard in the rear affords air and sunshine. The babies show what a good environment can do even for those who come to us handicapped. Our infant population is thirty-one.

Three surgical operations have been performed in our own hospital and one other case has been operated upon three different times in a New York hospital. One minor operation, an ingrowing toe nail was removed.

Six cases have been transferred to Matteawan and one returned.

The Wasserman tests and complement fixation tests are made for every inmate. Our disciplinary cases give about the same number of positives per hundred that are found in the rest of the institution. One of our hardest cases who had to have extreme discipline the greatest number of times was negative for both tests.

Fifty-five patients have had hospital care. The daily average call, outside of the hospital, for all cases, including new inmates and disciplinary cases, has been about twenty.

Professionally we are glad to report only one death, an infant, a twin, of malnutrition and with symptoms of diabetes.

The range of diseases and accidents treated during the year is as follows:

Abscesses, acne, adenitis, alopecia, alcoholism, anaemia, appendicitis, auto-toxaemia, burns, bronchitis, conjunctivitis, contusions, constipations, dysmenorrhoea, dermatitis, eczema, epilepsy, epistaxis, fistula (anal), furunculosis, gastralgia, gonorrhoea, goitre, hordeolum, hysteria, insanity, ingrowing nails, jaundice, mitral disease, ophthalmia, pyorrhea, psoriasis, pediculosis, rheumatism, scabies, sprains, syphilis, trachoma, tonsilitis, tuberculosis, urticaria, verruca.

Respectfully submitted,

MARGARET S. HALLECK,

Resident Physician.

MOVEMENT OF POPULATION

Population October 1, 1915

Adults	371	
Infants	30	
		401
Committed October 1, 1915, to June 30, 1916		120
Returned for violation of parole	38	
Returned temporarily	26	
Returned after escape	6	
Returned from Matteawan	2	
Returned from General Hospitals	3	
		75
Infants born	7	
Infants committed with mother	8	
		15
Total		611

Paroled October 1, 1915, to June 30, 1916.....	122	
Reparoled	28	
Replaced	16	
		<hr/> 166

Discharged, expiration of sentence:

Remained in institution entire time.....	3	
Returned for violation of parole.....	13	
While in institution awaiting work.....	7	
		<hr/> 23

Discharged on appeal..... 2

of Managers:

on and request of committing

..... 1

..... 2

..... 8

Home Custodial..... 5

Matteawan..... 6

Humane Society..... 1

General Hospitals..... 3

28

..... 1

and with mothers..... 11

in Children's Home..... 2

14

discharged 231

Remaining in Institution June 30, 1916

.....	349	
.....	31	
		<hr/> 380

Total 611

number any one day.....	403
number any one day.....	382
for fiscal year.....	387.430

TABLE I

STATISTICS OF PAROLE

Maintaining correspondence October 1, 1915.....	172
Paroled October 1, 1915, to June 30, 1916.....	122
Reparoled without returning to institution.....	2
Reparoled from institution October 1, 1915, to June 30, 1916	27
Discharged from parole.....	126
Returned for violation of parole.....	37
Violated parole during the year and not found.....	35
Returned temporarily during the year.....	28
Replaced	14
Transferred to Matteawan Asylum.....	1
Replaced without returning to institution.....	11
In institution awaiting change of place.....	10
Died:	
(a) On parole	1
(b) Violated parole	1
Maintaining correspondence June 30, 1916.....	154

TABLE II

OFFENSES FOR WHICH WOMEN PAROLED DURING THE NINE MONTHS ENDING JUNE 30, 1916, WERE COMMITTED AND THE PROPORTION IN EACH CLASS WHO ARE MAINTAINING CORRESPONDENCE

	No.	Main- taining corres- pond- ence	Dis- charged	Violated parole	Violated parole and returned	Re- turned tempo- rarily
FELONIES						
Assault, first and second degree	1	1	.....	.....	.....	.....
Burglary, second degree	1	1	.....	.....	.....	.....
Burglary, third degree	1	1	.....	.....	.....	.....
Criminally carrying a pistol	2	1	.....	1	.....	.....
Grand larceny, first degree	1	1	.....	.....	.....	.....
Grand larceny, second degree	8	4	.....	3	1	.....
Manslaughter, first degree	1	1	.....	.....	.....	.....
Robbery, first degree	1	.....	.....	1	.....	.....
	16	10	.....	5	1	.....
MISDEMEANORS						
Adultery	2	1	1	.....	.....	.....
Assault, third degree	1	1	.....	.....	.....	.....
Maintaining place for smoking opium	1	1	.....	.....	.....	.....
Petit larceny	23	15	1	4	2	1
Unlawfully possessing cocaine	6	5	.....	1	.....	.....
Unlawfully selling morphine	1	1	.....	.....	.....	.....
	34	24	2	5	2	1
OTHER OFFENSES						
Common prostitute	24	10	3	7	2	2
Disorderly conduct	4	1	.....	1	1	1
Frequenting disorderly house	1	1	.....	.....	.....	.....
In danger of becoming morally de- praved	1	.....	.....	.....	.....	1
Possessing burglar's keys	1	1	.....	.....	.....	.....
Public intoxication	1	1	.....	.....	.....	.....
Soliciting	7	5	.....	2	.....	.....
Suffering from infectious disease	2	2	.....	.....	.....	.....
Vagrancy	13	11	.....	.....	2	.....
Violating tenement house law	16	12	.....	2	.....	2
Wayward child	2	2	.....	.....	.....	.....
	72	46	3	12	5	6
Grand total	122	80	5	22	8	7

TABLE III

AGE OF PAROLED WOMEN AT TIME OF COMMITMENT

16 years	17
17 years	8
18 years	14
19 years	15
20 years	11
21 years	11
22 years	9

23 years	10
24 years	9
25 years	7
26 years	3
27 years	4
28 years	4
29 years	2
30 years	2
31 years	1
37 years	1
	<hr/>
	122

Average age, 21 years, 4 months.

TABLE IV

CHARACTER OF VIOLATION OF PAROLE OF THE THIRTY-SEVEN
WOMEN RETURNED FOR VIOLATION OF PAROLE

Arrested for soliciting while living at home.....	1
Immorality	7
Intoxication	3
Left home	4
Left place of employment and arrested for soliciting.....	10
Left place of employment and committed larceny.....	4
Left place of employment.....	8
	<hr/>
	37

TABLE V

OCCUPATIONS OF WOMEN MAINTAINING CORRESPONDENCE
PAROLED DURING NINE MONTHS ENDING JUNE 30, 1916

Assisting aunt	3
Assisting mother at home.....	3
Assisting sister-in-law	1
Attendant in day nursery.....	2
Day's work	1
Factory	11
General housework	43
Housewife	2
Keeping house for father and helping in small store.....	2

Keeping house for husband and working in factory.....	1
Learning hairdressing	1
Learning millinery	1
Manicuring	1
Patient in Matteawan Asylum.....	1
Sick and living with sister.....	1
Tailoring	1
Working in candy store.....	1
Working in hospital.....	2
Scrub woman	1
	<hr/>
	79

TABLE VI

LENGTH OF TIME AWAY FROM INSTITUTION OF THOSE MAINTAIN-
ING CORRESPONDENCE — INCLUDING THOSE PAROLED BEFORE
OCT. 1, 1915, AND THOSE RETURNED TEMPORARILY

One month	26
Two months	12
Three months	11
Four months	13
Five months	9
Six months	3
Seven months	5
Eight months	11
Nine months	8
Ten months	2
Eleven months	1
One year	12
One year and one month.....	10
One year and two months.....	6
One year and three months.....	6
One year and four months.....	3
One year and five months.....	2
One year and six months.....	8
One year and seven months.....	2
One year and eight months.....	3
Two years and six months.....	1

TABLE VII
STANDING OF THOSE PAROLED DURING THE NINE MONTHS
ENDING JUNE 30, 1916

Discharged from parole.....	6
Violated parole and returned.....	8
Violated parole and not found.....	24
Returned to change place.....	6
Maintaining correspondence	78
	<hr/>
	122

Of the Twenty-seven Reparoled

Discharged from parole.....	11
Violated parole and returned.....	1
Violated parole and not found.....	4
Returned voluntarily and transferred to Matteawan.....	1
Maintaining correspondence	10
	<hr/>
	27

Of Those Maintaining Correspondence October 1, 1915

Discharged from parole.....	88
Died	1
Violated parole and returned.....	10
Violated parole and not found.....	6
In institution awaiting place.....	3
Maintaining correspondence	64
	<hr/>
	172

TABLE VIII
LENGTH OF STAY IN INSTITUTION OF THOSE PAROLED DURING
NINE MONTHS ENDING JUNE 30, 1916

Two years and eleven months.....	1
Two years and nine months.....	2
Two years and seven months.....	3
Two years and six months.....	3
Two years and five months.....	5
Two years and four months.....	4
Two years and three months.....	5

Two years and two months.....	5
Two years and one month.....	6
Two years	15
One year and eleven months.....	15
One year and ten months.....	11
One year and nine months.....	18
One year and eight months.....	9
One year and seven months.....	10
One year and six months.....	5
One year	2
Seven months	1
Six months	1
Four months	1

122

Average stay in institution 1 year, 11 months.

TABLE IX

PLACED OUT DURING NINE MONTHS ENDING JUNE 30, 1916—
IN WHOSE CUSTODY

First Parole

In custody of employer.....	68
In custody of mother.....	11
In custody of father.....	4
In custody of parents.....	1
In custody of sister.....	7
In custody of husband.....	3
In custody of brother.....	2
In custody of sister-in-law.....	1
In custody of cousin.....	1
In custody of uncle	2
In custody of Church Mission of Help.....	10
In custody of Miss Greenstone.....	7
In custody of friend.....	2
In custody of aunt.....	2
In custody of Mrs. Barclay.....	1

122

Reparoled

In custody of employer.....	16
In custody of Church Mission of Help.....	3
In custody of husband.....	3
In custody of mother.....	3
In custody of brother.....	1
In custody of County Home at Rome.....	1

 27

TABLE X

OF THE ONE HUNDRED TWENTY-FIVE DISCHARGED FROM PAROLE
DURING THE NINE MONTHS ENDING JUNE 30, 1916

Had Been on Parole

One month	10
Two months	1
Three months	6
Four months	3
Five months	1
Six months	4
Seven months	7
Nine months	5
Ten months	6
Eleven months	4
One year	6
One year and one month.....	7
One year and two months.....	6
One year and three months.....	11
One year and four months.....	11
One year and five months.....	16
One year and six months.....	4
One year and seven months.....	2
One year and eight months.....	2
One year and nine months.....	1
One year and ten months.....	1
Deported before expiration of sentence.....	1
Discharged from institution at expiration of sentence.....	11

*Offenses for Which Committed of the One Hundred Twenty-five
Discharged from Parole During the Nine Months Ending June
30, 1916*

Adultery	1
Assault, third degree	1
Associating with vicious and disorderly persons	2
Burglary, third degree	2
Common prostitute	63
Disobedient child	2
Disorderly conduct	2
Disorderly person	3
Disposing of cocaine	1
Endangering the morals of a child	1
Frequenting disorderly house	1
Grand larceny, first degree	4
Grand larceny, second degree	12
In danger of becoming a prostitute	1
Injuring property	1
Keeping disorderly house	2
Manslaughter, second degree	1
Neglect of children	1
Not being subject to proper restraint and control	1
Petit larceny	11
Soliciting	4
Vagrancy	9

126

Occupation While on Parole

Attending school	2
Assisting aunt	3
Assisting mother	15
Assisting sister	2
Day's work living with parents	1
Factory	11
General housework	77
Helping friend in boarding house	1
Housewife	8
Ill, living with sister-in-law	1

Keeping house for father.....	1
Sewing.....	1
Working in hospital.....	3
	<hr/>
	126
	<hr/>

Age at Time of Commitment

15 years	1
16 years	10
17 years	10
18 years	7
19 years	13
20 years	12
21 years	13
22 years	12
23 years	13
24 years	9
25 years	5
26 years	10
27 years	5
28 years	3
29 years	3
	<hr/>
	126
	<hr/>

Average age 21 years, 9.6 months.

1. COUNTIES FROM WHICH WOMEN WERE COMMITTED DURING
NINE MONTHS ENDING JUNE 30, 1916

Greater New York:

Bronx	2
Kings	46
New York	48
Queens	3
	<hr/>
	99
Albany	2
Dutchess	2
Orange	6
Rensselaer	3

Rockland	2	
Suffolk	1	
Westchester	3	
Ulster	2	
		<hr/> 21
		<hr/> 120
		<hr/> <hr/>

2. COURTS

Children's court	2	
City court	3	
City magistrate's court	65	
Court of general sessions	8	
Court of special sessions	22	
County court	7	
Justice of peace	5	
Police court	4	
Recorder's court	4	
		<hr/> 120
		<hr/> <hr/>

3. OFFENSES

Felonies:

Abandoning a child under 14 years of age	1	
Arson, third degree	1	
Attempted grand larceny, second degree	1	
Bigamy	1	
Burglary, third, larceny and receiving	4	
Grand larceny, first degree and receiving	1	
Kidnapping	1	
Deserting child with intention to abandon it	2	
Violating section 1296, Penal Law (grand larceny) ..	1	
		<hr/> 13

Misdemeanors:

Adultery	1	
Assault, third degree	5	
Endangering morals of a child	3	
Defrauding a hotel	1	
Petit larceny	18	

Possessing narcotics	2	
Possessing a pistol (first offense).....	1	
Unlawful entry	1	
Violating section 1298, Penal Law (petit larceny).....	1	
Violating section 720, Penal Law (offensive language)	2	
		<hr/> 35
Other offenses:		
Vagrancy, Tenement House Law.....	16	
Vagrancy, section 887, sub. 4 and 4-A.....	22	
Vagrancy, section 887, sub. 3.....	3	
Vagrancy, soliciting	16	
Vagrancy, residing in a house of prostitution.....	1	
Associating with lewd, vicious or disorderly persons.....	9	
Vagrancy	3	
Disorderly conduct	1	
Public prostitution	1	
		<hr/> 72
		<hr/> 120

4. AGE

16 years	3	
17 years	12	
18 years	17	
19 years	10	
20 years	9	
21 years	14	
22 years	8	
23 years	16	
24 years	7	
25 years	7	
26 years	5	
27 years	3	
28 years	3	
29 years	4	
30 years	1	
33 years	1	
		<hr/> 120

5. RELIGION

Catholic	56	
Jewish	20	
Protestant:		
Baptist	6	
Episcopal	4	
Lutheran	2	
Methodist	5	
Presbyterian	1	
Unspecified	26	
	<hr/>	44
		<hr/>
		120

6. OCCUPATIONS

No work outside of home	4
General housework	17
General housework and factory	17
General housework and waitress	5
General housework and saleslady	2
General housework, saleslady, proof reading	1
General housework and nurse girl	2
General housework and day's work	3
General housework and vaudeville stunts	1
General housework and laundry	1
General housework, day's work, factory	1
General housework, laundry, factory	1
General housework for one month only	1
General housework for two months only	1
Factory	17
Factory and posing in movies	1
Factory and packer in store	2
Factory and chorus girl	1
Factory, singing and dancing in cabarets, chambermaid	1
Factory and millinery	1
Cash girl, telephone operator	1
Cash girl, wrapper factory, housework	1
Cash girl and waitress	1

Cash girl, factory.....	1
Cash girl and general housework.....	1
Cashier and filing clerk.....	1
Cashier and factory.....	1
Cashier, factory, waitress.....	1
Cashier and assistant manager in theatre, work on ' films	1
Saleslady	1
Saleslady, waitress	2
Saleslady, waitress, factory	3
Saleslady, day's work.....	1
Saleslady, factory	2
Nursegirl, packer in store, model.....	1
Nursegirl, day's work.....	1
Nursegirl, seamstress	2
Nursing, sewing, day's work.....	1
Nurse in hospitals (training not finished).....	1
Cook	1
Seamstress	1
Dressmaker's apprentice and factory.....	1
Millinery	4
Waitress and factory.....	3
Waitress and day's work.....	1
Day's work	3
Messenger and wrapper in store, factory.....	1
Interpreter in hotel, clerical work, housework.....	1

120

7. BIRTHPLACE

Foreign born, white:

Canada	3
England	3
Germany	2
Hungary	2
India	1
Ireland	3
Italy	4
Poland	1
Roumania	1

Russia	9	
Sweden	1	
		<hr/>
		30

Native born, white:

New York City (Greater New York)	39	
New York State (outside of Greater New York) . .	15	
Connecticut	2	
District of Columbia	1	
Delaware	1	
Illinois	1	
Massachusetts	3	
New Jersey	4	
Ohio	1	
Rhode Island	1	
Vermont	1	
Wisconsin	1	
		<hr/>
		70

Native born, colored:

New York City (Greater New York)	6	
New York State (outside of Greater New York) . .	3	
California	1	
North Carolina	1	
New Jersey	1	
Pennsylvania	1	
South Carolina	1	
Virginia	6	
		<hr/>
		20

120

8. BIRTHPLACE OF PARENTS

Foreign born, white:

Birthplace of father and mother Canada	2
Birthplace of father and mother England	3
Birthplace of father and mother Hungary	2
Birthplace of father and mother Ireland	3
Birthplace of father and mother Italy	4

Birthplace of father and mother Poland.....	1
Birthplace of father and mother Roumania.....	1
Birthplace of father and mother Russia.....	10
Birthplace of father and mother Sweden.....	1
Birthplace of father Italy; mother France.....	1
Birthplace of father Germany; mother Poland.....	1
Birthplace of father Canada; mother United States..	1

 30

Native born, white:

Birthplace of father and mother United States.....	31
Birthplace of father and mother Austria.....	2
Birthplace of father and mother England.....	2
Birthplace of father and mother Germany.....	8
Birthplace of father and mother Hungary.....	1
Birthplace of father and mother Ireland.....	4
Birthplace of father and mother Italy.....	2
Birthplace of father and mother Poland.....	1
Birthplace of father and mother Russia.....	3
Birthplace of father and mother unknown.....	4

 58

Birthplace of father United States; mother England.	1
Birthplace of father United States; mother Germany	1
Birthplace of father United States; mother Ireland.	1
Birthplace of father France; mother Germany.....	1
Birthplace of father Germany; mother United States.	1
Birthplace of father Germany; mother Hungary...	1
Birthplace of father Germany; mother unknown....	1
Birthplace of father Ireland; mother United States.	1
Birthplace of father Ireland; mother Canada.....	1
Birthplace of father Italy; mother United States...	1
Birthplace of father Norway; mother Sweden.....	1
Birthplace of father unknown; mother Russia.....	1

 12

Native born, colored:

Birthplace of father and mother United States.....	16
Birthplace of father United States; mother Germany	1
Birthplace of father West Indies; mother United States	1
Birthplace of father Brazil; mother unknown.....	1

Birthplace of father Philippine Islands; mother

Mexico	1	
		20
		<hr/>
		120
		<hr/>
		<hr/>

9. SOCIAL CONDITIONS

Single	79	
Married	38	
Widowed	2	
Divorced	1	
		<hr/>
		120
		<hr/>
		<hr/>

a. Number of children born to married women,
including 2 widowed and 1 divorced:

No child, no miscarriage	10	
Pregnant, first child	1	
One legitimate child	8	
One legitimate child, pregnant	1	
One legitimate child, one miscarriage	2	
One legitimate child, still born	2	
One legitimate child, one illegitimate child	1	
One legitimate child, one illegitimate child, one mis- carriage	1	
One legitimate child, two miscarriages	1	
One legitimate child, three illegitimate children, one miscarriage	1	
Two legitimate children	4	
Two legitimate children, one miscarriage	1	
Three legitimate children	1	
Three legitimate children, pregnant (illegitimate)	1	
Four legitimate children, one miscarriage	1	
Four legitimate children, pregnant (illegitimate)	1	
(Two of these legitimized by marriage.)		
Five legitimate children	1	
One illegitimate child	1	
One miscarriage	1	
Two miscarriages (one legitimate, one illegitimate)	1	

b. Number of children born to unmarried women :

No child, no miscarriage.....	44	
Pregnant, first child.....	3	
One child, no miscarriage.....	14	
One child, one miscarriage.....	2	
One child, two miscarriages.....	1	
Two children.....	2	
Two children, both still born.....	1	
Three children.....	1	
Three children, pregnant.....	1	
One miscarriage.....	7	
Two miscarriages.....	3	
		<hr/> 79
		<hr/> 120
		<hr/> <hr/>

10. PREVIOUS RECORDS (so far as can be ascertained)

Never arrested before.....	41	
Sentenced for violation of probation, first arrest..	5	
One previous arrest but no commitment.....	11	
Two previous arrests but no commitment.....	3	
Five or more previous arrests but no commitment..	2	
One arrest on technical charge, discharged.....	1	
		<hr/> 63
Probation.....	2	
Probation, House of Good Shepherd.....	2	
Probation, twice; House of Good Shepherd, twice...	1	
Probation, Workhouse, one sentence.....	1	
Probation, Workhouse, two sentences.....	2	
Probation, House of Correction, Boston.....	1	
Probation, Wayside Home, House of Good Shepherd suspended sentence.....	1	
Probation, Children's Court, probation from General Sessions, Magdalen Home, discharged and sen- tenced to Bedford for violation of probation Gen- eral Sessions.....	1	
Probation, Brooklyn Training School, House of Mercy, Cedar Knolls School of Jewish Protectory, House of Good Shepherd.....	1	

Probation, in Florence Crittenden Home, Vanderbilt Home	1	
Probation, in Florence Crittenden Home, House of Mercy, Magdalen Home	1	
Probation after being at Waverly House	3	
Lake View Home	1	
Lake View Home, Florence Crittenden Home, one other arrest	1	
		19
House of Good Shepherd	8	
House of Good Shepherd, Foundling Asylum	1	
House of Good Shepherd, Wayside Home	1	
House of Good Shepherd, five times; workhouse, once	1	
House of Good Shepherd, twice; Catholic Protectory from Children's Court	1	
House of Good Shepherd, workhouse twice	1	
House of Good Shepherd, transferred to Bedford . .	1	
House of Holy Family; workhouse, twice	1	
St. Benedict's Home at Rye from Children's Court . .	1	
Magdalen Home	1	
Magdalen Home, transferred to Bedford	2	
Magdalen Home, twice, Vanderbilt Home, then Magdalen Home, transferred to Bedford	1	
		20
*Wayside Home, Salvation Army Home, several arrests	1	
*Wayside Home, one arrest	1	
*Wayside Home	2	
Florence Crittenden Home, one day in jail, one arrest	1	
Florence Crittenden Home, twice, House of Mercy, House of Good Shepherd (all in five months)	1	
Florence Crittenden Home, Washington, D. C., Asylum Home, Government Insane Asylum at Washington four times (no suitable institution in Washington)	1	
Hudson Training School, probation in Boston, one other arrest	1	

* Transferred to Bedford as incorrigible.

N. Y. State Reformatory at Bedford.....	1	
N. Y. State Reformatory at Bedford, two other arrests	1	
House of Shelter, House of Good Shepherd, St. Ann's School of Industry, Albany.....	1	
Workhouse, one sentence.....	1	
Workhouse, one sentence, Randall's Island Home and Hospital	1	
Workhouse, one sentence, House of Good Shepherd, two suspended sentences in Children's Court.....	1	
	<hr/>	14
Workhouse, two sentences	2	
Workhouse, three sentences.....	1	
Indicted for murder, first degree, and acquitted....	1	
	<hr/>	4
		<hr/>
		120
		<hr/>

REPORT OF THE LABORATORY OF SOCIAL HYGIENE FOR THE YEAR ENDING SEPTEMBER 30, 1916

*To the Board of Managers of the New York State Reformatory for
Women at Bedford Hills, N. Y.:*

During the past year the work of the Laboratory of Social Hygiene has developed in three main directions. The first of these has been carried on throughout the year and is a continuation of the work of other years, that of thorough investigation along psychological and sociological lines of all new admissions to the Reformatory. The general procedure of this is as follows: Within the first two or three days after the admission of a new girl she is interviewed by the sociologist of the Laboratory who thus secures the data which furnishes the basis of the social investigation. This investigation includes a complete history of each girl's life, and is made both by visits of the field workers and by writing to various sources. In every case the immediate family and near relatives are visited by the field worker, and in most cases friends, neighbors, landlords, and other people interested in her are interviewed. Either by writing or visiting an effort is made in each case to verify school and work records, court, institutional and hospital records, and any other data which may be a matter of record. From such informants a fairly reliable series of facts may be dove-tailed together to give, as nearly as possible, a verified and accurate history of each girl. This history includes not only a study of home conditions, her school, industrial, institutional and sex history, but wherever possible, data concerning each girl's heredity, and the traits and tendencies which are prominent in her family history.

The statistical tables of the annual report of the Reformatory are based largely on the data thus obtained, which is inevitably more accurate than it was possible to have when the girl's own story was the main source of information.

The psychological branch of the investigation involves giving to each girl, soon after her arrival in the institution, a series of psychological tests for the purpose of determining as far as possible her native intellectual capacity, and a series of educational tests to

measure her attainment in specific branches of school work. In addition to the immediate application of the results to the understanding of the individuals studied, we are continuing the work of scientific scrutiny of the tests themselves, in order that their interpretation may become increasingly more reliable.

When the initial study of any girl is completed, her case is considered at a joint meeting of the Laboratory Staff with members of the Reformatory Staff, at which the report of the Resident Physician of the Reformatory regarding the girl's physical condition and the findings of the Laboratory Staff along psychological and sociological lines are both discussed. The data obtained through laboratory investigations are thus made available to the members of the Reformatory Staff early in the girl's institutional life so that they may plan her course in the institution with reference to these facts.

A second line of development, which has been initiated during the past year, is closely allied to the first in the character of the investigations represented, but has only an indirect bearing on the problems of this Reformatory. In this the laboratory has undertaken the study of four groups of women, of one hundred each, in four representative institutions of this State which receive women committed through the courts, and of one group of one hundred women on probation in New York City. The object of this study is two-fold: First, to make possible the formulation of more general conclusions regarding delinquent women by supplementing the data obtained from the group of women at the Reformatory at Bedford Hills by the addition of data from other representative groups, and in the second place, to attempt to discover by these line of investigation what principles of selection are operative in determining to which institution a woman is sent. The work on this problem was begun in August of this year and is planned to cover one year. It has necessitated considerable additions to the Laboratory Staff, and has been made possible only by the hearty co-operation which we have received from those in authority in the institutions concerned.

A third line of development is represented by the opening of a Psychopathic Hospital, associated with the Laboratory. The purpose of the hospital is to study and treat the psychopathic or mentally abnormal woman under as favorable individual conditions as are possible in an institution, in order to develop her physical, mental

and social capacities to their greatest extent. The hospital is under the direction of Dr. Edith R. Spaulding. Associated with her as psychiatrist is Dr. Cornelia B. J. Schorer. The staff consists of an occupational teacher and a physical training teacher, the nursing staff and a matron appointed by the State. The hospital is planned to accommodate twenty cases at a time, selected from the Reformatory population because of their need of this type of treatment. The formal opening of the hospital took place on September 23d of this year. It is therefore too early to report on results accomplished, but it is hoped that the hospital will prove of very real assistance to the Reformatory as well as to the individuals who are sent to it for treatment.

Respectfully submitted,

MABEL R. FERNALD,
Director of the Laboratory of Social Hygiene.

APPENDIX I

LAWS OF NEW YORK

An Act relating to State Charities, constituting chapter 26 of the
General Laws

(Chapter 55 of the Consolidated Laws)
THE STATE CHARITIES LAW

ARTICLE XIV (as amended)

HOUSE OF REFUGE AND REFORMATORY FOR WOMEN

- Section 220. Names and location of house of refuge and reformatory for women.
221. Appointment of managers.
222. General powers and duties of managers.
223. Appointment and removal of officers and employees; compensation.
224. General powers of superintendents.
225. Oaths and bonds.
226. Commitments; papers furnished by committing magistrates.
227. Return of females improperly committed.
228. Transfers to other institutions.
229. Disposition of children of women so committed.
230. Conveyance of women committed.
231. Detention and rearrests in case of escapes.
232. Employment of inmates.
233. Clothing and money to be furnished discharged inmates.

Section 220. Names and location of house of refuge and reformatory for women.—The house of correction for women located at Albion, is continued and shall be known as the Western House of

Refuge for Women. The reformatory for women located at Bedford is also continued and shall be known as the New York State Reformatory for Women. The house of refuge for women at Hudson shall be continued as the New York State Training School for Girls, as provided in article eight of the state charities law. No female over the age of sixteen years shall be committed to the New York State Training School for Girls after June first, nineteen hundred and four. All inmates of the House of Refuge for Women at Hudson on June first, nineteen hundred and four, unless transferred therefrom pursuant to the provisions of law, shall be subject to the custody and control of the board of managers of such institution, according to the provisions of law under which they were committed thereto. (As amended by chapter 453 of the Laws of 1904.)

§ 221. Appointment and removal of managers or trustees.— Each of the state charities and reformatory institutions and the state school for the blind shall be under the control and management of boards of seven managers to be appointed for each institution by the governor by and with the advice and consent of the senate. The terms of office of said managers shall be five years and they shall be so appointed that the terms of at least one of the members of each board shall expire on the first Tuesday of February of each year. All vacancies shall be filled by the governor and the person appointed to fill a vacancy in the board of managers of any institution shall hold office for the remainder of the term of the person whom he succeeds. In the discretion of the governor persons of either sex may be appointed as managers of such institutions. Such managers shall serve without compensation but shall be entitled to their actual and necessary traveling expenses in attending meetings of the boards of which they are members. The governor shall have power to remove any member or members of a board of managers for cause after an opportunity to be heard. Managers and trustees now serving as members of boards which have more than seven members may be continued in office until the expiration of the term for which they were appointed, but no new appointments shall be made to such boards until their membership is reduced to less than seven. Boards now consisting of less than seven members shall be enlarged by additional appointments to be made before the end of the fiscal year. All persons now serving as members of boards of managers or trus-

tees of the state charitable and reformatory institutions shall be eligible to reappointment as managers or trustees, at the discretion of the governor. (As amended by chapter 433 of the Laws of 1908.)

§ 222. General powers and duties of managers.— Each board of managers shall have the general superintendence, management and control of the institution over which it is appointed; of the grounds and buildings, officers and employees thereof; of the inmates therein, and of all matters relating to the government, discipline, contracts and fiscal concerns thereof, and may make such rules and regulations as may seem to them necessary for carrying out the purposes of such institutions. Each board of managers shall constitute a board of parole of the institutions over which it is appointed, and shall have power to parole or discharge inmates as hereinafter provided. In the consideration of the parole or discharge of any inmate of the New York State Reformatory for Women at Bedford, the judge or magistrate who committed any female to such institution, when he so requests in writing, shall constitute a member of such board of parole in considering and determining the matter of the parole or discharge of such female committed by him. (As amended by chapter 165 of the Laws of 1904.)

§ 223. Appointment and removal of officers and employees; compensation.— The board of managers of each of such institutions shall appoint from among its members a president, secretary and treasurer, who shall hold office for such length of time as such board may determine. They shall appoint a female superintendent, who shall hold office during the pleasure of the board. Such board of managers shall fix the compensation of the officers and employees of the institution under their charge.

§ 224. General powers of superintendents.— The superintendent of each such institution shall, subject to the direction and control of the board of managers thereof:

1. Have the general supervision and control of the grounds and buildings of the institution, the subordinate officers and employees and the inmates thereof, and of all matters relating to their government and discipline.

2. Make such rules, regulations and orders, not inconsistent with law or with the rules, regulations or directions of the board of man-

agers, as may seem to her proper or necessary for the government of such institution and its officers and employees; and for the employment, discipline and education of the inmates thereof.

3. Exercise such other powers and perform such other duties as the board of managers may prescribe.

Such superintendent shall also have power to appoint and remove all subordinate female officers and employees, subject to the approval of the board.

§ 225. Oaths and bonds.— Each manager and superintendent of such institution shall take the constitutional oath of office and each superintendent shall execute a bond to the people of this state in the sum of five thousand dollars with sureties approved by the state comptroller, which shall be filed in the office of the comptroller. The manager appointed as treasurer of such institution shall give a bond in such amount as the comptroller may direct. The comptroller may require other officers of such institutions to give a bond if in his opinion the interests of the state demand it. (As amended by chapter 49 of the Laws of 1900.)

§ 226. Commitments; papers furnished by committing magistrate.—Subdivision 1. A female between the ages of fifteen and thirty years convicted by any court or magistrate of petit larceny, vagrancy under subdivisions three or four of section eight hundred and eighty-seven of the code of criminal procedure, habitual drunkenness, of being a common prostitute, or frequenting disorderly houses of prostitution, or of a misdemeanor, and who is not insane, nor mentally or physically incapable of being substantially benefited by the discipline of either of such institutions, may be sentenced and committed to the Western House of Refuge for Women at Albion or the New York State Reformatory for Women at Bedford, to be there confined under the provisions of law relating to such institutions. Such commitments shall not be made for definite term, but any such female may be paroled or discharged at any time after her commitment by the board of managers of such institution, but shall not in any case be detained longer than three years. Such commitments to the Western House of Refuge for Women at Albion, shall be from the fourth, fifth, sixth, seventh and eighth judicial districts; to the New York State Reformatory for Women at Bedford, from the first, second and third judicial districts. (As amended by chapter 632 of the Laws of 1899, and chapters 169 and 453 of the Laws of 1904.)

2. The board of managers of each such institution shall furnish the several county clerks of the state with suitable blanks for the commitment of women thereto. Such county clerks shall immediately notify the magistrates of their respective counties of the reception of such blanks and that upon application they will be furnished to them. (As amended by chapter 632 of the Laws of 1899.)

3. The magistrate committing a female pursuant to this section shall immediately notify the superintendent of the institution to which the commitment is made of the conviction of such female, and shall cause a record to be kept of the name, age, birthplace, occupation, previous commitments, if any, and for what offenses; the last place of residence of such female, and the particulars of the offense for which she is committed. A copy of such record shall be transmitted, with the warrant of commitment, to the superintendent of such institution, who shall cause the facts stated therein, and such other facts as may be directed by the board of managers, to be entered in a book of record. (As amended by chapter 632 of the Laws of 1899.)

4. Such magistrate shall before committing any such female, inquire into and determine the age of such female at the time of commitment, and her age as so determined shall be stated in the warrant. The statement of the age of such female in such warrant shall be conclusive evidence as to such age, in any action to recover damages for her detention or imprisonment under such warrant, and shall be presumptive evidence thereof in any other inquiry, action or proceeding relating to such detention or imprisonment. (As amended by chapter 632 of the Laws of 1899 and chapters 169 and 453 of the Laws of 1904.)

§ 227. Return of females improperly committed.— Whenever it shall appear to the satisfaction of the board of managers of any such institution, that any person committed thereto is not of proper age to be so committed or is not properly committed, or is insane or mentally incapable of being materially benefited by the discipline of any such institution, such board of managers shall cause the return of such female to the county from which she was so committed. Such female shall be so returned in the custody of one of the persons employed by such boards of managers to convey to such

institutions women committed thereto, who shall deliver her into the custody of the sheriff of the county from which she was committed. Such sheriff shall take such female before the magistrate making the commitment, or some other magistrate having equal jurisdiction in such county, to be by such magistrate resented for the offense for which she was committed to any such institution and dealt with in all respects as though she had not been so committed. The cost and expense of the return of such female, necessarily incurred and paid by any such board of managers shall be charged against the county from which such female was committed, to be paid by such county to such board of managers in the same manner as other county charges are collected.

§ 228. Transfer to other institutions.—If at any time there shall be more inmates in any such institutions than can be properly cared for therein, the board of managers shall so inform the State Board of Charities. The State Board of Charities may thereupon authorize and direct the transfer of such excess, or any part of such excess of inmates to such one of the other houses of refuge or state reformatories as the State Board of Charities may designate. The said board of managers shall thereupon transfer to such other institution such number of inmates, preferably those last received by such institution. Such transfers shall be made as follows: The board of managers shall advise the superintendent of the institution so designated of the number to be so transferred, and this officer shall cause them to be taken to such institution and receive and keep them according to their sentences respectively, the same as if they had been originally sentenced thereto. With the inmates so transferred there shall be furnished certified copies of their sentences and commitments. (Added by chapter 169 of the Laws of 1904.)

§ 229. Disposition of children of women so committed.—If any woman committed to any such institution, at the time of such commitment is a mother of a nursing child in her care under one year of age, or is pregnant with child which shall be born after such commitment, such child may accompany its mother to and remain in such institution until it is two years of age and must then be removed therefrom. The board of managers of any such institution may cause such child to be placed in any asylum for children in this state and pay for the care and maintenance of such child therein at

a rate not to exceed two and one-half dollars a week, until the mother of such child shall have been discharged from such institution, or may commit such child to the care and custody of some relative or proper person willing to assume such care. If such woman, at the time of such commitment, shall be the mother of and have under her exclusive care a child more than one year of age, which might otherwise be left without proper care or guardianship, the magistrate committing such woman shall cause such child to be committed to such asylum as may be provided by law for such purposes, or to the care and custody of some relative or proper person willing to assume such care.

§ 230. Conveyance of women committed.—The board of managers of each such institution shall employ suitable persons to be known as marshals, to convey from the place of conviction to such institution, all women legally committed thereto, and such marshals shall have the power and authority of deputy sheriffs in respect thereto. All expenses necessarily incurred in making such conveyance shall be paid by the treasurer of the board of managers. In case of the commitment of a woman, who, at the time thereof, is the mother of a nursing child or is pregnant, the board of managers shall designate a woman of suitable age and character to accompany the person so committed, along with the officer or representative, authorized in this section to be employed by such managers.

§ 231. Detention and rearrests in cases of escapes.—The board of managers of any such institution may detain therein, under the rules and regulations adopted by them, any female legally committed thereto, according to the terms of the sentence and commitment, and conditionally discharge such female at any time prior to the expiration of the term of commitment. If any inmate escape or be conditionally discharged from any such institution, the board of managers may cause her to be rearrested and returned to such institution, to be detained therein for the unexpired portion of her term, dating from the time of her escape or conditional discharge. A person employed by the board of managers of any such institution to convey to such institution, women committed thereto, may arrest, without warrant, an escaped inmate in any county in this state, and shall forthwith convey her to the institution from which she escaped; and a magistrate may cause an escaped inmate to be

arrested and held in custody, until she can be removed to such institution, as in the case of her first commitment thereto. A person, conditionally discharged from any such institution may be arrested and returned thereto, upon a warrant issued by its president and secretary. Such warrant shall briefly state the reasons for such arrest and return, and shall be directed and delivered to a person employed by such board of managers to convey to such institutions, women committed thereto, and may be executed by such person in any such county of this state.

§ 232. Employment of inmates.— The board of managers of each institution shall determine the kind of employment for women committed thereto and shall provide for their necessary custody and superintendence. The provisions for the safe keeping and employment of such women shall be made for the purpose of teaching such women a useful trade or profession and improving their mental and moral condition. Such board of managers may credit such women with a reasonable compensation for the labor performed by them, and may charge them with the necessary expenses of their maintenance and discipline, not exceeding the sum of two dollars per week. If any balance shall be found to be due such women at the expiration of their terms of commitment, such balance may be paid to them at the time of their discharge. To secure the safe keeping, obedience and good order of the women committed to any such institution, the superintendent thereof, has the same power as to such women, as keepers of jails and penitentiaries possess as to persons committed to their custody.

§ 233. Clothing and money to be furnished discharged inmates.— The board of managers of any such institution may in their discretion, furnish to each inmate of such institution who shall be discharged therefrom, necessary clothing not exceeding twelve dollars in value, or if discharged between the first day of November and the first day of April to the value of not exceeding eighteen dollars, and ten dollars in money, and a ticket for the transportation of one person from such institution to the place of conviction of such inmate, or to such other place as such inmate may designate, at no greater distance from such institution than the place of conviction.

COMMITMENT TO HOUSES OF REFUGE AND THE NEW YORK STATE
REFORMATORY FOR WOMEN AT BEDFORD

(Chapter 40 of the Consolidated Laws)

Provisions of the Penal Code

§ 2187. Imprisonment of female convict.— Any women over the age of sixteen years, who shall be convicted of a felony in any of the courts of this state, shall, when the sentence imposed is one year or more, be sentenced to imprisonment in the state prison for women at Auburn. When the sentence imposed is less than one year, she may be committed to the county jail of the county where convicted, or to a penitentiary, or to the state prison for women at Auburn. A woman between the ages of fifteen and thirty, convicted of a felony, who has not theretofore been convicted of a crime, punishable by imprisonment in a state prison, may in the discretion of the trial court be sentenced to a house of refuge or reformatory for women, to be there confined under the provisions of law relating to such house of refuge or reformatory. (As amended by chapter 114 of the Laws of 1900.)

An Act to amend the Greater New York charter, relative to commitments to the State Reformatory for Women at Bedford.

(Chapter 610, Laws of 1905)

Section 1. Chapter fourteen of the Greater New York charter as re-enacted by chapter four hundred and sixty-six of the laws of nineteen hundred and one, is hereby amended by inserting therein a new section to be known as section seven hundred and seven-a, and to read as follows:

COMMITMENTS TO STATE REFORMATORY FOR WOMEN AT
BEDFORD

§ 707-a. Whenever a woman between the ages of sixteen and thirty is convicted in the city of New York of habitual drunkenness, of being a common prostitute, of soliciting on public streets or places for purposes of prostitution, of frequenting disorderly houses

or houses of prostitution, or vagrancy under subdivisions three or four of section eight hundred and eighty-seven of the code of criminal procedure, she may be committed to the State Reformatory for Women at Bedford, pursuant to the provisions of section one hundred and forty-six of the state charities law, to be there confined subject to the provisions of such law and of any other statute relating to such reformatory.

Chapter 659, Laws of 1910, repeals section 707-a of the Greater New York charter and re-enacts it as section 89 of the Inferior Criminal Courts Act.

LAWS OF NEW YORK.—By Authority
CHAP. 605

AN ACT to amend the state charities law, in relation to commitment and discharge of females to the New York State Reformatory for Women at Bedford.

Became a law May 21, 1913, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section two hundred and twenty-six of chapter fifty-seven of the laws of nineteen hundred and nine, entitled "An act relative to state charities, constituting chapter fifty-five of the consolidated laws," as amended by chapter four hundred and forty-nine of the laws of nineteen hundred and ten, is hereby amended to read as follows:

§ 226. Commitments; papers furnished by committing magistrate. 1. A female between the ages of sixteen and thirty years, or any female of any age committed under the provisions of section eighty-nine of chapter six hundred and fifty-nine of the laws of nineteen hundred and ten, as amended, convicted by any court or magistrate of petit larceny, vagrancy under subdivision three or four of section eight hundred and eighty-seven of the code of criminal procedure, habitual drunkenness, of being a common prostitute, of frequenting disorderly houses or houses of prostitution, or of a misdemeanor, and who is not insane, or mentally or physically incapable

of being substantially benefited by the discipline of either of such institutions, may be sentenced and committed to the Western House of Refuge for Women at Albion or the New York State Reformatory for Women at Bedford, to be there confined under the provisions of law relating to such institution. Such commitments shall not be for a definite term, but any such female may be paroled or discharged at any time after her commitment by the board of managers of such institution, but shall not in any case be detained longer than three years. Such commitments to the Western House of Refuge for Women at Albion, shall be from the fourth, fifth, sixth, seventh and eighth judicial districts; to the New York State Reformatory for Women at Bedford, from the first, second, third and ninth judicial districts.

2. The board of managers of each such institution shall furnish the several county clerks of the state with suitable blanks for the commitment of women thereto. Such county clerks shall immediately notify the magistrates of their respective counties of the reception of such blanks and that upon application they will be furnished to them.

3. The magistrate committing a female pursuant to this section shall immediately notify the superintendent of the institution to which the commitment is made of the conviction of such female, and shall cause a record to be kept of the name, age, birthplace, occupation, previous commitments, if any, and for what offenses; the last place of residence of such female, and the particulars of the offense for which she is committed. A copy of such record shall be transmitted, with the warrant of commitment, to the superintendent of such institution, who shall cause the facts stated therein, and such other facts as may be directed by the board of managers, to be entered in a book of records.

4. Such magistrate shall, before committing any such female, inquire into and determine the age of such female at the time of commitment, and her age as so determined shall be stated in the warrant. The statement of the age of such female in such warrant shall be conclusive evidence as to such age, in any action to recover damages for her detention or imprisonment under such warrant,

and shall be presumptive evidence thereof in any other inquiry, action or proceeding relating to such detention or imprisonment.

§ 2. This act shall take effect immediately.

STATE OF NEW YORK,
OFFICE OF THE SECRETARY OF STATE. } ss.:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom and of the whole of said original law.

FRANCIS M. HUGO,
Secretary of State.

REPORT
OF THE
Superintendent of Public Works
ON THE
CANALS OF THE STATE
For the Nine Months Ended June 30, 1916
AND ON THE
TRADE AND TONNAGE OF THE CANALS FOR THE
YEAR 1916

TRANSMITTED TO THE LEGISLATURE JANUARY 2, 1917

ALBANY
J. B. LYON COMPANY, PRINTERS
1917

REPORT OF THE SUPERINTENDENT OF PUBLIC WORKS

STATE OF NEW YORK

OFFICE OF THE SUPERINTENDENT OF PUBLIC WORKS

ALBANY, N. Y., January 2, 1917

*To the Honorable the President of the Senate and to the Honorable
the Speaker of the Assembly:*

SIRS.—Pursuant to the provisions of the Canal Law, being chapter 13 of the Laws of 1909, I have the honor to submit to you herewith the financial report of this Department. The fiscal year having been changed by the enactment of chapter 118 of the Laws of 1916 so as to make the same begin on July 1st of each year and end on June 30th of the succeeding year, such financial report covers nine months only, beginning October 1, 1915, and ended June 30, 1916.

There is also submitted an account of the disbursements for ordinary repairs and operating expenses; a statement of the trade and tonnage of the canals during the navigation season of 1916; also, an account of the condition of the canals and of the improvements connected therewith, completed or in progress, under special appropriations during the year ended December 31, 1916; with a statement of the expenditures thereon.

I also submit a report covering the work done by the various bureaus under the jurisdiction of the Department; also, as to the progress of the canal enlargement and terminal construction work, authorized by chapter 147 of the Laws of 1903, chapter 391 of the Laws of 1909, chapter 746 of the Laws of 1911, and supplementary acts.

In the report will be found recommendations relative to the work of the Department, submitted for your consideration.

WILLIAM W. WOTHERSPOON,

Superintendent of Public Works.

REPORT

OFFICE OF THE SUPERINTENDENT OF PUBLIC WORKS

ALBANY, N. Y., *January 2, 1917.*

To the Honorable the Legislature of the State of New York:

Pursuant to the terms of the statute relative thereto, I herewith submit to you a report as to the condition of the canals of the State as to the improvement and repairs made during the past year, together with an account of the moneys received and expended for that portion of the fiscal year beginning October 1, 1915, and ended June 30, 1916.

There is also presented a statement of the condition of the work now in progress in connection with the improvement of the Erie, Oswego and Champlain canals, authorized by chapter 147 of the Laws of 1903, as amended and by supplementary acts; and the work of improving the Cayuga and Seneca canal, authorized by chapter 391 of the Laws of 1909; and the work of providing terminal facilities for traffic on the improved canal, authorized by chapter 746 of the Laws of 1911.

With the report I submit for your consideration, various recommendations concerning matters relative to the work of the Department.

TONNAGE

The total amount of freight transported over the State canals during the year 1916 was 1,625,050 tons. This tonnage was distributed among the various canals as follows:

	TONS
Erie canal	917,689
Champlain canal.....	506,528
Oswego canal	135,948
Cayuga and Seneca canal.....	44,421
Black River canal.....	20,464

The freight transported by way of the Erie canal consisted of 631,795 tons of way freight shipped east and 150,220 tons of way freight shipped west, or a total of way shipments, both east and

west, of 782,016 tons. The through freight on the Erie canal was made up of 85,496 tons east-bound and 50,177 tons west-bound, or a total of through freight, east and west, of 135,673 tons. The shipments east-bound on the Erie canal, including both through and way freight, amounted to 717,291 tons, while the total of the west-bound shipments of both through and way freight was 200,398 tons.

On the Champlain canal the southerly shipments amounted to 344,792 tons and the northerly shipments 161,736 tons, making up the total on this canal of 506,528 tons. As to way shipments, 200,902 tons came south and 44,237 tons went north; and the through Champlain freight was composed of 143,890 tons shipped south and 117,499 tons shipped north. The total amount of way freight on the Champlain canal, both north and south, was 245,139 tons, and the through freight, both north and south, consisted of 261,389 tons. The freight designated as shipments south on the Champlain canal are included in the general tonnage statement as eastern shipments and those shipped north are included in the general statement as western shipments. The total tonnage on the Champlain canal namely, 506,528 tons, exceeded the tonnage on this canal for the preceding year by 3,498 tons; and since the 1915 shipments was 11,016 tons over the total of 1914, a gain of 14,514 tons is seen on the Champlain canal in two years.

There were 44,421 tons of freight shipped over the Cayuga and Seneca canal during the past year, as compared with a total of 26,384 tons shipped in 1915, showing an increase of 18,037 tons.

The figures given for tonnage on the Black River canal, namely, 20,464 tons, show a falling off of 10,689 tons from the 1915 shipments, which were 31,153 tons.

The items going to make up the total tonnage carried by all canals are as follows:

WOOD PRODUCTS	TONS
Boards and scantling.....	237,258
Timber.....	33,561
Wood.....	5,467
Pulp wood.....	69,921
Wood pulp.....	3,837

VEGETABLE FOOD	TONS
Wheat.....	66,639
Barley.....	27,564
Barley malt.....	20,747
Oats.....	18,257
Potatoes.....	2,139

OTHER AGRICULTURAL PRODUCTS	TONS
Flaxseed.....	5,100
Hay.....	1,258

MANUFACTURES	TONS
Domestic spirits.....	8
Oil, meal and cake.....	230
Pig iron.....	22,508
Bloom and bar iron.....	728
Castings and iron ware.....	10,885
Domestic salt.....	32,063

MERCHANDISE	TONS
Sugar.....	366
Coffee.....	791
Iron and steel.....	653
Railroad iron.....	120
Miscellaneous merchandise.....	99,660

MISCELLANEOUS FREIGHT	TONS
Ice.....	98,667
Stone, lime and clay.....	642,819
Anthracite coal.....	163,647
Bituminous coal.....	49,747
Iron ore.....	5,900
Sundries.....	4,510

The total mileage of boats cleared was 671,268 miles and the estimated value of the cargoes \$27,513,525.

In comparing these tonnage figures with the record of 1915, it will be noted that the total of 1916 is less than that of the preceding year by 233,064 tons. While there was an increase of 3,498 tons on the Champlain canal and 18,037 tons on the Cayuga and Seneca canal, these gains were more than offset by a decrease in Erie canal shipments of 237,546 tons, a decrease of 6,364 tons of the Oswego canal and a falling off of 10,689 tons on the Black River canal.

Increased shipments, however, over the preceding year were made in boards and scantling, there being a gain of 29,406 tons; in timber, where there was a gain of 12,541 tons; in hay, 827 tons; in castings and iron ware, 8,483 tons; in ice, 70,225 tons; in stone, lime and clay, 1,677 tons; and a small increase in the shipment of coffee.

As will be seen, the total shipments of lumber under the two items of "boards and scantling" and "timber," 237,258 tons of the one and 33,561 tons of the other, make a total of 270,819 tons, showing an increase over the 1915 shipment of 41,947 tons. In the figures for last year is seen an increase of 3,335 tons over the year 1914, and there is every indication that further increase in shipments of these commodities will be seen.

The large increase in the item of ice is caused not only by a largely increased transportation of this commodity on the Champlain canal, but also from the use of various waters connected with the canal system for the carrying on of the ice-making industry. The entering upon the canalized Mohawk river by several ice companies during the past year promises still larger shipments by canal in the future.

CAUSES OF DECREASED TONNAGE

The falling off in the total canal tonnage during 1916 was not unexpected. In my report, submitted in January last, I referred to several causes which would inevitably lead to lessened shipments. Among these were the decreasing number of seaworthy boats suitable for canal traffic and the hesitancy on the part of boat building concerns to construct craft of a type suitable to the new conditions until the improved channel was ready for use. While the reasons then given apply with equal force to the tonnage

figures of the season just past, a further explanation of the smaller tonnage figures is offered in the fact that approximately 200 boats heretofore used for the carrying of canal freight were withdrawn from that service and made use of during the past season for storage purposes in New York harbor. A serious congestion of freight existed there and craft of every type suitable for such purpose was eagerly sought. At various times during the past summer the assistance of the Department was sought in securing boats for the transportation of freight and freight was offered for shipments beyond the capacity of the canal vessels in use. From reports received covering the situation there is every reason to believe that had the canal boats withdrawn for storage use been continued in the canal service, even with no new craft added, the tonnage for 1916 would have shown a considerable increase over the preceding year instead of an actual decrease.

NAVIGATION

The Erie, Oswego and Champlain canals were opened to navigation at twelve o'clock noon of May 15th, and the Black River canal on June 1st, the usual date. On the Cayuga and Seneca section the passing of boats through the Cayuga branch to Cayuga lake was also begun on May 15th, but owing to the condition of construction work the season on the Seneca branch to Seneca lake at Geneva was not officially opened until July.

The official closing of navigation for the season was fixed at twelve o'clock midnight of November 30th, and that date marked the end of through navigation. Mild weather conditions prevailing, however, portions of the Erie canal were continued in operation for a few days beyond that date. Boats were also passed through the Champlain canal up to December 9th, an informal extension having been granted by the Department in response to petitions from shippers.

Navigable conditions were successfully maintained throughout the entire season, in spite of the fact that the canal structures at many points were subjected to serious damage by floods which had followed the heavy rainfall of the spring and early summer. On the Western Division abnormally high water conditions prevailed during the early winter and continued with little abatement well into the summer. Later in this report I will refer

more particularly to the extent of the damage done by floods along the canalized Tonawanda creek.

At the very opening of the season in May, excessive rainfall occurred at Rochester and in the territory westerly of that city, and, continuing for several days without cessation, resulted in flood conditions which seemed to be without precedent. All of the low lying lands in the affected region were entirely submerged. Forces of men were stationed at every structure whose operation might promise relief and every means was exhausted to relieve the situation. Much damage was done throughout the entire section, but fortunately when the waters had receded and the condition of the canal structures examined, it was found that the repairs necessary could be performed without interfering with the opening of canal traffic. This work was promptly done. The only other occurrences which affected navigation were as follows:

At a point east of Port Gibson, where in June about 100 feet of the canal bank was washed away. The work of repair was promptly begun and progressed quickly to completion. There was no suspension of navigation.

On July 4th, serious floods in the neighborhood of new Lock No. 29 undermined the power house connected with that structure, causing its partial collapse. To save the operating machinery from destruction it was necessary to remove it. Power for the operation of the locks was secured from outside sources and navigation was resumed in five days.

At Little Falls on July 10th a leak occurred in the canal wall, necessitating an interruption to traffic until July 14th.

Generally speaking, however, excellent conditions of navigation were uniformly maintained and every facility was provided for the safe and speedy transportation of freight.

THE PRIZE LOCK

In my report of a year ago, I described the plan which had been adopted in the department, of creating a friendly rivalry among the employes at the new type locks, as to which organization should attain the distinction at the end of the season of having its lock and the grounds adjacent thereto, in the best condition. The competition which existed during the year 1915 was renewed during the season just past, with much enthusiasm. In addition

to the performance of their regular duties in connection with the operation and maintenance of the structures, much work was done by the men in improving and beautifying the State property and this without any cost to the State.

At the end of the year 1916, after careful examination of all of the new locks, the reward and distinction was conferred upon Lock No. 11, on the Champlain canal at Comstocks, in charge of H. E. Kingsley, lockmaster, and George A. Rock and Bernard J. Boyle, lock operators. Honorable mention was given to the following in the order named:

Lock No. 3, at Fulton; Lock No. 12, at Whitehall, Lock No. 28-B, at Newark, and Lock No. 15, at Fort Plain. The winning crew was given the privilege of erecting and maintaining a sign at the structure proclaiming it as the "PRIZE LOCK," and each member was given a small increase of salary; both the distinction and the increase in salary to be held by the men for a year only, unless the same crew should be successful in the contest the following season.

CANAL ROUTE IN 1916

In my report submitted to you a year ago I referred to the success of the efforts persistently exerted to throw open to navigation the eastern end of the new canal channel, and that on May 15, 1915, boats for the first time passed from the Hudson river at Waterford through the flight of five locks into the Mohawk river pool above the Crescent dam. This had made possible the use of approximately 17 miles of improved canal extending from the Hudson river to Rexford Flats, where the old canal was entered.

In the fall of 1915 the locks and other structures on the canalized Mohawk river had been fully completed, and I felt that no effort should be spared to make available for use the additional 65 miles of new channel. The situation was thoroughly studied, every contingency anticipated and cared for, contractors were spurred on to greater progress, with the result that the expectations of the Department expressed to you a year ago were realized at the opening of the season just passed. Nearly 65 miles of the old canal route were permanently abandoned, and on May 15th last the new barge canal channel from the Hudson river westerly a distance of 86 miles to Jacksonburg, with all its new structures

in perfect operating condition, was placed at the disposal of canal traffic.

A similar situation existed on the Champlain Division. The northerly half of the new channel, that is, from Whitehall to Northumberland, a distance of 35 miles, had been in operation since 1913. From Northumberland to Waterford the line of the unimproved canal was followed, and with the considerable quantity of freight offered for shipment much delay was experienced, owing to the necessary use of the narrow prism and the limited draft allowed to boats. The locks on the southerly half of the canal having been completed and all excavation work having been placed under contract, early last winter plans were perfected by which a channel through the new route, of sufficient depth and width for the type of boats now in use, should be provided at the opening of the season. These plans were carried out and the remaining 26 miles of the new Champlain route were placed in commission. Several rock bars in the new channel, particularly in the vicinity of Schuylerville, however, whose presence was not known until the season had opened, caused some delay to traffic in the early summer. The whole attention of the contractor was at once directed to the deepening of the channel at these points, and, in addition, the forces of this Department were utilized to the utmost, with the result that a clear channel to meet all necessities was provided promptly thereafter.

The advantages secured by canal users from the opening of the new canal cannot be overestimated. Not only was the time of passage from Whitehall to Troy cut nearly in half, but also the draught allowed was raised from four feet six inches to six feet and the size of cargoes was increased nearly fifty per cent.

On the Erie canal during the past season 184 miles of improved (barge) channel have been in use and 168 miles of the unimproved canal. The route traversed by a westerly-bound boat, with the locks encountered, was as follows:

Passing through the United States Government lock at Troy the Erie barge canal was entered at Waterford, approximately one mile above the Federal lock; thence through new Locks Nos. 2, 3, 4, 5 and 6, located within a distance of little more than a mile, into the lower Mohawk river pool, the elevation of which is one hundred and sixty-nine feet higher than that of the Hudson river.

From the lower Mohawk river pool the boat was raised to the upper level at Vischer Ferry by means of new Lock No. 7 located about 11 miles from new Lock No. 6; thence through the following new locks: No. 8, at Scotia; No. 9, at Rotterdam; No. 10, at Cranesville; No. 11, at Amsterdam; No. 12, at Tribes Hill; No. 13, Yosts; No. 14, Canajoharie; No. 15, Fort Plain; No. 16, at Mindenville, and No. 17, at Little Falls. Passing Lock No. 18, Lock No. 41 was encountered a few miles westerly, which was the first of the old locks used on the western trip. Here the unimproved canal channel was made use of, passing through Locks Nos. 42 to 56, inclusive, and the cities of Utica and Syracuse to Lyons, where a 25-mile section of the new barge canal was available, with new Locks Nos. 28-B, 29 and 30. At Fairport the old canal was again used, and passing through Rochester by it the improved channel was met at Greece, a few miles westerly of that city. The route then proceeded through the 60-mile level, whose improvement had been completed to Lockport, where the combined new Locks Nos. 34 and 35 raised the craft to the level of Lake Erie; thence through the new channel to Tonawanda, a distance of 19 miles, where the line of the unimproved canal was followed to Buffalo.

On the Oswego canal 32 miles of improved channel between Oswego and Mud Lock were in full operation. From Mud Lock the improved channel was connected with the unimproved Erie canal by a six mile stretch of unimproved Oswego canal requiring the use of four of the old type locks. The canalized Oneida river from Three River Point to Oneida lake was in full commission, affording entrance to that lake at its western end from the improved Oswego channel.

CANAL ROUTE IN 1917

Later in this report the expectations of the Department as to additional progress of the Barge canal construction work will be given in some detail. A realization of those expectations will see the completion of the work remaining to be done in the new channel between Herkimer and Jacksonburg and between Rome and Oneida lake. This accomplishment will afford a complete canal

route from the Hudson river at Waterford to Lake Ontario at Oswego by way of the Erie Barge canal, Oneida lake, the canalized Oneida river and the new Oswego canal.

The westerly bound boat therefore during the coming year will traverse the same route as in 1916, to and through the city of Little Falls and through new Lock No. 18 at Jacksonburg. From that point it will enter the improved channel, in commission for the first time, passing through new Lock No. 19 east to Utica; thence the new route passes along the northern outskirts of Utica and new Lock No. 20 is reached just westerly of that city; thence along the southerly limits of Rome to New London. Passing this village, new Locks Nos. 21 and 22, immediately westerly thereof, will be used and the boat will enter the eastern end of Oneida lake at Sylvan Beach; thence across Oneida lake to Brewerton into the canalized Oneida river, and through new Lock No. 23 situated three miles west of Brewerton to Three River Point where the Oswego Barge canal route will be used northerly to Lake Ontario at Oswego, passing through the following new locks: Lock No. 1 at Phoenix; Locks Nos. 2 and 3 at Fulton; Lock No. 5 at Minetto; and Locks Nos. 6, 7 and 8 at Oswego.

This route will constitute a continuous channel of Barge canal dimensions from the Hudson river at Waterford to Lake Ontario at Oswego. In other words, any craft whose dimensions are such as that it may pass through the new lock chambers having a length of 310 feet and width of 45 feet and which may navigate a channel 12 feet deep may without difficulty proceed from New York city to the Great Lakes. It must be noted, however, that some of the fixed bridges over the new channel have a clearance of but 15½ feet.

Should the destination of the westerly bound craft, however, be Buffalo, the route as above indicated from Waterford to New London will be followed. At New London by means of the new junction lock, it will be passed into the prism of the unimproved canal, passing through the cities of Syracuse and Rochester and along the same line westerly of Rochester as was in use in 1916. Where the line of the unimproved canal is used, the clearance under fixed bridges is but 12 feet.

ROUTE OF THE BLACK RIVER CANAL

During the season of 1917, craft bound for Boonville or other points on the Black River canal from localities in the eastern or western parts of the State will use the improved Erie canal channel to the new junction lock located just south of Rome. From this point, a short section of the old Erie canal which is to be retained through Rome will be used until its junction with the Black River canal is reached.

ROUTE OF CAYUGA AND SENECA CANAL

This waterway during the next season of navigation will be entered from the unimproved Erie canal at Montezuma and the boat will proceed southerly to a point locally known as Mud Lock. If Cayuga lake is the destination, the boat will continue southerly from this point through the unimproved canal to Cayuga village where it will enter the lake proper. The Cayuga lake pool may be utilized from Mud Lock to the lake itself.

For a boat bound for Seneca Falls, Waterloo, Geneva and Seneca lake, lockage will be had into the canalized Seneca river at Mud Lock and the boat will proceed in a westerly direction passing through the new combined Locks Nos. 2 and 3 at Seneca Falls and new Lock No. 4 at Waterloo and thence to Seneca lake and Geneva.

ROUTE OF THE CHAMPLAIN CANAL

Boats bound through the Champlain canal for northerly points will pass through the Federal lock at Troy; thence northerly in the Hudson river, passing through new Lock No. 1, located about three miles north of Waterford; through new Locks Nos. 2 and 3, just below and above Mechanicville; and through Lock No. 4 at Stillwater, Lock No. 5 above Schuylerville, Lock No. 6 at Fort Miller, and Lock No. 7 at Fort Edward. At this point the channel of the Hudson river is left, and the so-called land line of the canal is followed to Whitehall, excepting where a portion of Wood creek canalized is used. After passing through Lock No. 7, Lock No. 8, also at Fort Edward, is used; then Lock No. 9 at Smith's Basin, Lock No. 11 at Comstock, and Lock No. 12 at Whitehall.

Should the destination be points on Lake Champlain or in Canada, the boat will then pass into the outlet of Lake Champlain,

locally known as the Narrows, which is under the jurisdiction of the United States Government; thence through Lake Champlain, also under Federal control. From Lake Champlain the St. Lawrence river may be reached by means of a system of Canadian canals.

While the route of the Champlain canal between Troy and Lock No. 7 at Fort Edward is mainly in the line of the Hudson river, exceptions will be found just above Lock No. 4, Lock No. 5 and Lock No. 6, where the route follows land lines for short distances.

Charts giving the route through the canalized river sections, together with the exact location of each lock and the distances between them, are available for distribution by the Department to those desiring them.

NEW JUNCTION LOCKS

In addition to the new locks heretofore referred to which will be in operation on the main lines of the canals, it is expected that seven new junction locks will be ready for operation at the beginning of the season of 1917. These structures will be utilized for the purpose of making connections with the improved canal and portions of the old canal retained under statutory provisions. These junction locks are located as follows:

On the Erie canal at Mohawk near guard gate No. 5, connecting the improved canal with the old canal channel between Mohawk and Rome.

On the Erie canal at Utica connecting the improved channel with the terminal harbor which has been provided for that city.

On the Erie canal at Rome, two will be in existence; one at a point just west of guard gate No. 7 connecting the improved canal with the old canal extending from Rome to Mohawk; and the other somewhat further west connecting the improved channel with a short section of the old Erie canal in the city of Rome leading to its junction with the Black River canal.

At New London, connecting the improved channel with a section of the old canal extending between that place and Syracuse. This lock will be used next season by all craft bound for Buffalo from the east.

On the Champlain canal, north of Schuylerville, and just above Lock No. 5, connecting the canalized Hudson river with the sec-

tion of the old Champlain canal leading to the village of Schuylerville for the purpose of providing terminal facilities for that place.

On the Champlain canal at Fort Edward, connecting a short section of the improved Champlain canal with the Glens Falls feeder. The last mentioned lock has been in use since 1914.

MARKING OF CHANNELS ON CANALIZED RIVERS AND LAKES

In previous reports of the Department, the method adopted for marking the channels of the new canal in canalized rivers and lakes has been described. The charting work has kept pace with the improvement of the new waterway and maps have been made available coincident with the opening of the new sections.

When the plan of placing the entire canalized Mohawk river in commission was adopted last fall, the preparation of the necessary channel maps was promptly begun and at the opening of the season were ready for distribution. In addition to this, charts covering the canalized Hudson river north of Troy were completed.

At the opening of navigation in May, the Department will have prepared charts showing the new river channel westerly of Little Falls, at Rochester harbor, in Tonawanda Creek, and the canalized Seneca river with Cayuga and Seneca lakes. The charts therefore already completed and in preparation include the following:

Chart No.	Description.
Erie No. 1	— Waterford to Vischers Ferry, Lock 7.
" " 2	— Vischer Ferry, Lock 7 to Lock 8 at Scotia.
" " 3	— Lock 8 at Scotia to Lock 10 at Cranesville.
" " 4	— Lock 10 at Cranesville to Fultonville.
" " 5	— Fultonville to Lock 14 at Canajoharie.
" " 6	— Lock 14, Canajoharie, to Lock 16 at Mindenville.
" " 7	— Lock 16 at Mindenville to Lock 18 at Jacksonburg.
" " 8	— Lock 18 at Jacksonburg to Lock 19, at Sterling creek.
" " 9	— Oneida lake, Locks 22 to 23.
" " 10	— Brewerton, Lock 23 to Three River Point.

Chart No.	Description.
Erie No. 11	— Three River Point of Lock 24 at Baldwinsville, including Onondaga lake and Syracuse terminal.
“ “ 12	— Lock 24 at Baldwinsville to Bonta's bridge.
“ “ 13	— Bonta's bridge to the Cayuga-Seneca Junction.
“ “ 14	— Cayuga-Seneca Junction to Black Creek west of Clyde.
“ “ 15	— Black Creek west of Clyde to Newark.
“ “ 16	— Rochester Harbor.
“ “ 17	— Pendleton guard gate to Tonawanda.
Champlain No. 1	— Waterford to Stillwater.
“ “ 2	— Stillwater to Northumberland.
“ “ 3	— Northumberland to Fort Edward.
Oswego No. 1	— Three River Point to Oswego.
Cayuga and Seneca No. 1	— Mays Point to Cayuga and to Seneca Falls.
Cayuga and Seneca No. 2	— Seneca Falls to Geneva with insets of Ithaca harbor and Watkins to Montour Falls.
Cayuga and Seneca No. 3	— Cayuga and Seneca lakes.

These charts are very desirable and often necessary for the use of navigators unfamiliar with the new river channels. They may be obtained at this office upon payment of a small fee designed to cover the actual cost of producing them.

STATE AID IN TOWING BOATS

The absence of towing path facilities on the new system renders necessary the adoption of other means for propulsion of boats than animal power. On the newly completed Champlain and Oswego canal routes boatmen already have adapted themselves to the new conditions, but on the Erie canal, where the new channel for its full length is not available, more than 60 per cent. of the boats used during the past season were horse drawn, their use being made possible by the furnishing of State towing tugs without charge.

The policy of furnishing such service was begun in 1914, when a 25 mile section of new canal in Wayne county was thrown open

to navigation, with a short stretch of canalized river near Vischer Ferry. These were isolated sections, and undoubtedly the Legislature deemed the towing tugs but a fair substitute for the towing path. The policy was continued in 1915 when approximately 17 miles of new channel at the canal's eastern end was in use, with some 25 miles on the Western Division; and again in 1916, although the entire canalized Mohawk river from Waterford to a point beyond Little Falls, a distance of 86 miles, was used.

As stated in my report to you a year ago on this subject, the furnishing of such towing services is a matter entirely for the determination of your honorable body. In connection with such consideration which you may now give to the question, I call your attention to the fact that so far as the eastern half of the new canal route is concerned, none of the arguments, as to isolation of completed sections, may now be advanced. Already in this report I have advised you that the new route will be in commission next season from the Hudson river to Lake Ontario at Oswego, furnishing a completed canal for that distance. Conditions there will be similar to those existing on the Oswego and Champlain canal routes which have been met by the boatmen. Boats bound direct for Buffalo will pass through approximately 121 miles of improved canal before the old channel, with its towing path, is reached.

Conditions governing the 25 mile stretch of completed route in Wayne county, which is without facilities for horse-drawn boats, will remain the same. On this section during the season of 1916 two towing tugs were maintained; and to continue the service for another season would require an appropriation of \$12,000. As to this section, I submit the facts to you without recommendation; but as to the remaining portion of the canal, so large an extent of the new route affording continuous passage will be placed in commission, I believe the time has come when those using the new system should adapt their boating equipment to the new conditions.

BENEFITS OF NEW CHANNEL ALREADY REALIZED

Hesitation on the part of those contemplating entering the canal transportation business to begin actual boatbuilding operations, based on the imperfect knowledge of when the improved channel will be ready for use and as to the conditions which will prevail upon it, is no longer justified. The present progress of the im-

provement work is such that there is little doubt that the full channel of the new canal with full width and depth will be provided in May, 1917, from the Hudson river to Lake Ontario at Oswego; and the passage of another year will see the direct route across the State to Lake Erie at Buffalo in completed form. Of the total of 444 miles of proposed improved canal channel 290 miles were in use during the past year. All improvement contracts are under way and at the opening of the next season of navigation 50 miles of additional improved channels will be ready for commercial use. This will bring into touch with commerce 94 miles of navigation on Oneida river and lake and on the Cayuga and Seneca lakes.

The new channel through the canalized Mohawk river from Waterford to Jacksonburg has been placed in successful operation. This has provided an unbroken stretch of 86 miles of new canal. Similar conditions have existed on the canalized Oswego river where 32 miles of new channel are in use. On the Western Division the use of nearly 100 miles of new canal has been enjoyed for some time.

The entire route of the new Champlain canal from Whitehall on Lake Champlain to the Hudson river at Waterford was thrown open to traffic at the beginning of the season just past, although several of the improvement contracts had not been brought to completion. The limitation which existed during the past year of a draft of six feet for boats will be removed at the opening of the next season. This waterway throughout its entire length will be ready for the large craft.

These completed canal sections have furnished any test which might have been desired of the efficiency of the new system. The more direct route, the higher rate of speed, and the smooth and speedy operation of the canal locks have considerably shortened the time of passage. The completed canal sections have proved to be an attraction to all lovers of water travel, and other countries and states have sent representatives here for the purpose of examining the new canal and to study its structures.

During the past season there have been received from those who had made use of the new channel many letters containing the most commendatory expressions as to the success of the new canal operations. The people of the State should feel much gratifica-

tion that the ambitious project of providing a great system of inland waterways at such immense expense is about to be successfully accomplished and bids fair to bring to them all of the benefits had in mind at its inception.

When the old route of the Champlain canal was in use at least three days were estimated as the time of passage from Troy to Whitehall. During the past summer, with a seven foot depth of channel provided, a trip has been made with loaded boats in tow of a tug from Troy to Whitehall in 30 hours. No good reason exists why even this time should not be shortened. For more than one-half the distance the new channel lies in the canalized Hudson river, and the great width of the waterway will limit the speed of the fleet only to its motive power. With the Department's inspection boat proceeding at an average rate of speed of nine or ten miles an hour, it is considered no great feat to traverse the entire length of the Champlain canal, a distance of 60 miles, passing through its 11 locks, during the daylight hours of a summer day. I am aware that a fleet of heavily burdened boats cannot hope to attain such rate of speed, but the above fact as stated is an indication of the possibility of decreasing the time of passage.

As to the improved Erie canal or rather the improved Mohawk river, which is a better designation, the 86 miles already in use permit one to form a fair opinion as to what is to come when the whole project is completed. Here too the speed of boats is limited to their motive power only. The Department's inspection boat has made the trip from Troy to Syracuse in 24 hours, actual running time, notwithstanding the fact that only 86 miles of the route were in the improved channel, 74 miles being in the old canal prism, where the rate of speed was necessarily greatly reduced; and in the section of the new canal traversed passage through 17 locks was necessary.

Assuming that this rate of speed were to be maintained in a trip across the State, and assuming the presence of sufficient crews to enable continuous travel, Buffalo could have been reached in about 75 hours from the time of starting from Troy. And since a boat of the same type may make the passage between Troy and New York in ten or twelve hours, it may be said that the time required by the Department's inspection boat to travel from

Buffalo to New York by way of the Hudson river and the canal would be in the neighborhood of 85 hours. To be sure, this rate is much in excess of that to be attained by a fleet of freight boats. I realize also that time must be lost in changing crews and perhaps laying off or picking up loaded boats, yet the above statement, even though it may not be realized to the full, may be considered as an indication of what may be expected in point of time for freight transportation between Buffalo and New York.

With the completion of the new route, the making of a round trip by freight carrying craft in a single week between New York and Buffalo may not be impossible. This, of course, is predicated upon travel by night as well as by day and minimizing the delays at intermediate stopping places. With a well regulated line of boats, the duration of any single stop should be well under an hour. With careful plans made, a tug leaving New York with a fleet of canal boats destined for different points could deliver a barge at any of such points and take on in its place another boat waiting for towage. With good organization, the change could be made in very brief time.

It has been estimated that under the conditions which will prevail on the new channel, a fleet leaving New York city on Monday morning might arrive at Buffalo on Thursday of the same week; and provided its fleet were ready for the return trip, could be again in New York by Sunday night.

I do not wish, however, to be understood as predicting the accomplishment of such round trip passage within the next few years, inasmuch as I have seen no towing boat offered for use on the new canal whose power, dimensions and type would be suitable for such task. I do believe, however, that when full experience is had on the new canal and its possibilities developed, the running time just referred to will be achieved or doubtless closely approximated. Whatever may be the actual achievement in time of passage between New York and Buffalo, it seems absolutely certain that a line of canal boats plying between those points may guarantee to forwarders the delivery of freight to destination in considerably less time for passage than would be consumed by railroad freight. To accomplish any such result, however, canal transportation must be handled on a definite and precise business basis. It must be conducted by those who will be responsible to

forwarders for guarantees given as to the delivery of freight and who will be able to perform to the full such guarantees. For some years past the transportation of freight by canal has been largely in the hands of the individual boat owner, whose resources perhaps have not permitted him to conduct operations in a large way. In fact, though great strides had been made in all other methods of transportation during the past 50 years, canal carrying methods had remained unchanged up to the present improvement. The limited capacity of the old canal and its lack of wharfage and freight unloading facilities, with the steady decrease in shipments, had offered no inducement to investors to embark in the canal transportation business. A new canal era is now dawning, and if the lost tonnage is to be regained, new freight carrying craft must be provided, which in size, type and motive power shall be commensurate with the improved waterways.

THE NEW TYPE OF BOAT

Question as to the type of boat which may be used most economically on the new canal has been much discussed. A definite answer to the question at the present time is well nigh impossible. Such problem can be solved only by actual experience with the new conditions. It is not a question as to what is the largest boat which may pass through the new channel, but rather what type and size of craft may most speedily transport the freight at the least cost for handling and motive power. The dimensions of the new lock chambers being 310 feet in length and 45 feet in width, it is possible for a craft capable of passing through such lock to navigate the new canal. In my opinion, however, it is unlikely that boats which would take up the full capacity of the lock chambers will be used, or, if used, would bring profitable returns to their owners. It would appear that for the present and immediate future, barges of smaller dimensions will be more practicable.

As to the several types of boat which have been suggested, mention might be made of the following: A barge 250 feet in length and 35 to 40 feet in width, with 12-foot sides; another 150 feet in length and 22 feet in width, with 12-foot sides, with the intention of passing four of such craft through a lock at the same time, one of the four containing the motive power of the

fleet; again, a boat of such dimensions as would carry approximately 600 tons of freight. A still further type of craft is favored by some which will be suitable for profitable use on the new channel and yet be of such size as will permit it to ply on portions of the present canal which are to be retained in their present dimensions. Such a craft would have dimensions of 150 feet in length, 17 feet, 5 inches in width, and a draft of six feet.

The type having capacity of approximately 600 tons is favored by many, as it is considered that freight of that amount may more easily be handled at destination. For large concerns, however, who propose to forward or receive large shipments of bulky freight in connection with manufacturing operations, the dimensions of the barge to be used should be determined after a study of their own particular needs. In cases where the cargoes will consist of such commodities as coal, ore, gravel, sand and the like, which may be immediately placed without the necessity of long storage at destination, the largest type barge would seem to be more practical.

Another question which has been given thought by those interested in canal matters relates to whether the motive power of a fleet should be contained in one of the freight carrying craft or in a separate tug or power boat. In my opinion, the answer to this question depends upon the nature of the cargoes and the length of the trips. For the employment of a fleet of barges it would seem that the use of a separate tug or power boat would be more practical. The handling of the barges making up the fleet would be more convenient, and when a boat was to be left at any port and another taken in its place, easier manipulation would result.

For the carrying of freight or merchandise in smaller quantities, such as has become known as packet service, a single craft could be used profitably for both the carrying of freight and providing the motive power.

LENGTH OF NAVIGATION SEASON

On the old canal system, conditions were such as to render almost impossible the opening of navigation until May, and the last week in November ended the season. No limitations as to length of season will be fixed on the new canal other than those

imposed by weather conditions. The greater part of the new canal lying in natural rivers and lakes, its channel will be open for use by boats as soon as the ice disappears. The lock operating forces are maintained on a yearly basis. During the closed season, their time will be fully occupied in the adjustment of the mechanical parts of the structures and their maintenance in a proper manner. Therefore, boats will be passed through the new locks at any time it is physically possible to do so. Fortunately, the number of lift bridges requiring operation to give the necessary clearance is few, and in another year provision will need to be made to cover the expense of bridge operation for at least an additional month.

With the new channel completed, I believe, it will be possible for navigation to begin at as early a date as on any river in the State and to continue until the actual forming of ice renders their further use dangerous to boats. An eight months' season would seem to be assured with a possibility of such additional time as weather conditions prevailing in March and December of each year will permit.

MAINTENANCE OF NEW CANAL SYSTEM

In this connection I desire to say that it is inevitable that the yearly cost of maintenance and operation of the new canal system will be large. A great sum has been invested and provision must be made for the proper up-keep of the plant. While it is true that the danger of breaks or leaks which was ever present on the old canals, is eliminated to a large extent, yet the new mechanical structures with their elaborate operating devices are subject to damage and their many parts will need renewal from time to time. Then too, it must be borne in mind that in addition to the improved waterways, some 75 miles of old Erie canal is retained in use, with the entire Black River canal. From my experience of the last two years and in view of the nature of the plant to be maintained, subject as it is to deterioration from actual use as well as to injury from the elements, the yearly appropriation for maintenance and renewals must of necessity increase in amount instead of diminish.

Already it has been pointed out to you that equipment and devices of a larger and more expensive type must be at hand for

repair and maintenance work. The most important of this equipment and that which is most urgently needed is a suitable dredging plant, with tugs of adequate power. The canalized rivers will require constant attention in order that the new channel shall be kept free and open. The small dredges heretofore in use by the department are entirely unsuitable for this work. The department has made a beginning in securing the needed dredging plant by adding to its equipment one large dipper dredge, obtained by purchase, and two hydraulic dredges, constructed with its own forces in 1914. More will be necessary for assignment to the Mohawk and Hudson river sections. To partially meet the situation, I have included an item in the departmental budget of \$25,000 for the purchase of new floating plant and recommend that it be allowed.

CANAL TRAFFIC AGENT

In the departmental budget recently submitted to your honorable body, provision will be found for the salary and expenses of a new employee who will be known as a canal traffic agent.

Such new official will be added to the existing Bureau of Canal Statistics and under my direction will collect all information relative to canal transportation rates, as well as rates for the carrying of goods to and from all localities which may prove to be feeders to the canal system. In short, the department proposes to establish a bureau of information from which may be obtained data of every kind relative not only to the canal and canal freight rates, but also to transportation costs to points beyond the canals, whether by water or by rail, when a portion of the route of the shipment is to be by canal.

The value of such service will be readily recognized. That the new canal shall serve its full purpose and the State derive the benefits expected from it, its advantages must be given wide publicity and concrete facts concerning it furnished to prospective shippers. No effort should be spared to make the canals again the factor they once were in the commerce of the nation.

In order that the permanency of this new service may be guaranteed to every possible extent, I recommend that provision be made for his employment in this department by the addition of a new section to the Canal Law which will create the position and describe the duties of the incumbent along the above lines.

THE CARE AND HANDLING OF FREIGHT ON THE
NEW CANAL

The interest taken by New York in the subject of the canal transportation of freight has not abated since the first channel was provided. Moneys for the maintenance of the artificial channels and for their improvement and enlargement have been expended with a lavish hand. When demands for greater depth and width of canal have been found justified, authority for the progress of the work has been given promptly. Whatever may have been the reason, however, it seems to be a fact that up to the passage of the so-called Terminal Act (Chapter 746 of the Laws of 1911), no serious endeavors had been made to furnish adequate wharfage for the use of canal craft, with machinery for the loading and unloading of freight, and buildings for the temporary storage of goods. Heretofore the care and handling of canal freight in an expeditious manner from the time the barge reached its destination was dependent entirely on such facilities as may have been provided by private enterprise. At no place along the canal did there exist a single warehouse owned by the State which could be utilized by shippers for the temporary protection of their merchandise, nor had there been in use at any of the few public docks machinery at the disposal of canal users for the loading or unloading of freight.

The necessity for suitable wharfage facilities needs no argument. However excellent may be the new conditions of navigation, convenient dockage space must be had at destination; the advantage of a speedy passage will be lost if the freight may not be promptly and economically removed to the wharf and the barge made quickly available for further business; and even with these conditions met, the shipper may not feel secure in the success of his enterprise if means are not at hand for the protection of his goods from the elements and unlawful interference, pending their distribution to the consignees.

With the present construction work well under way, the absolute necessities of the situation came to be fully realized. Following the report of the Terminal Facilities Commission appointed in 1909, the Terminal Act of 1911 was passed and thereafter approved by the people. Provision was made not only for the

construction of docks at all places where shipments by canal, actual or in prospect, would seem to demand the same, but also the erection of warehouses and mechanical devices for the handling of freight were provided.

Much progress has been made in the work. Already public terminal docks are in existence on the Erie canal at Albany, Troy, Waterford, Crescent, Schenectady, Amsterdam, Fort Plain, Fonda, Little Falls, Herkimer, Illion, Frankfort, Utica, Rome, Spencerport, Holley and Lockport.

In addition to these points, while not planned as terminal docks, at other points along the line of the canal concrete walls are in place, affording excellent means for the mooring, loading and unloading of boats.

Construction work is in progress at terminals for Lyons, Weedsport, St. Johnsville and Canajoharie, and will soon be completed. At Syracuse the work of providing proper harbor and wharfage facilities is well under way, as is also the improvement of the Erie and Ohio basins at Buffalo.

The lateral canals have not been neglected and already terminal docks are in place on the Champlain canal at Mechanicsville, Schuylerville, Thomsons, Fort Edward and Whitehall; on Cayuga Lake at Ithaca; on Lake Champlain at Port Henry and Plattsburg; and on the Oswego canal two locations are being improved in the City of Oswego. Care has been taken in each instance to so locate the wharf that convenient access to a public highway is had, as well as easy connection with existing railroads. At all of the more important terminals spur railroad tracks may be laid, permitting the convenient transfer of freight between boat and car. The importance of the last named facilities cannot be exaggerated. With the problem of a steady movement of freight ever existing, the canals and railroads may no longer, in a large sense, be deemed in the light of competitors, but rather as feeders, one to the other. The making of suitable connection between the two at all important terminals is most desirable and even necessary and has been given serious attention.

The concrete docks completed, some progress is being made in the work of equipping them. Contracts already have been awarded or are being advertised for the construction of warehouses of a permanent type at Albany, North Tonawanda and Lockport, and

for buildings of a somewhat temporary nature at Troy, Mechanicsville, Fort Edward, Port Henry, Utica, Rome, Schenectady, Amsterdam, Fonda, Ilion, Frankfort, Spencerport and Holley, and the installation of a simple form of derrick is being commenced at the terminals at Albany, Whitehall, Little Falls, Rome, Lockport and Tonawanda. It is the intention of the canal authorities to proceed with this class of work as promptly as possible to the extent of the funds available therefor.

OPERATION OF TERMINALS

Under the statute the new terminal docks, with their equipment, will be operated by the Superintendent of Public Works under rules and regulations adopted by the Canal Board. These have not as yet been adopted, but studies are now being made to the end that only such regulations will be promulgated as will serve the best interests of both the State and shippers.

No official determination has been reached on the question of fees for use of the wharfs already constructed on the line of the canal itself, and at the present time pending the completion of the entire canal route and in the absence of necessary equipment, no charge is being made for their use. Under agreements with the City of New York covering the transfer to the State of certain water frontage necessary for terminal construction, the schedule of dockage fees heretofore enforced by the city will continue in effect, the revenue being divided equally between the State and city governments. Ultimately, with the new system in full operation, some charge for the use of all terminals and their equipment may be made. The new warehouses will be in charge of Department officials responsible for the safekeeping of merchandise stored therein, and the operation of the mechanical devices will be directed by them. As to whether or not the State shall derive a revenue from the use of its terminals in excess of the cost of maintenance and operation is a question of policy to be later determined; but it would seem to me that fees should be fixed in such amount at least as will relieve the State of any expense for their operation.

In view of conditions existing on many of the newly completed docks, and anticipating little or no revenue from this source dur-

ing the next fiscal year, I recommend that an appropriation of \$20,000 be made for the purpose of enabling the Department to operate and protect the new structures and their equipment which will shortly be in place.

PENALTIES FOR VIOLATION OF CANAL REGULATION

Under the provisions of the Canal Law, the Superintendent of Public Works has authority to make all necessary rules and regulations for the management of the canals and their structures and may impose such forfeitures of money as he deems reasonable for the breach of such rules or regulations. He must, however, prosecute the offenders for such forfeitures of money.

It will be recognized that this is somewhat of a cumbersome method for enforcing the State's authority on its own property. The rules and regulations which have been prescribed for the use of the new canal system and its structures are fair and reasonable and compliance with them on the part of all is necessary in order that the general navigation interests may be conserved. Means should be at hand for the canal officials to punish those who wilfully disregard the regulations. Such punishment should be in the nature of a fine to be imposed on the owner or master of the offending boat and authority should be had on the part of the department to detain such boat until the fine was paid.

I do not anticipate that necessity will often arise for the exercising of such authority but in my opinion in order that department officials may compel obedience to lawful orders, it should be given.

I therefore recommend that the provisions of the Canal Law be amended in such manner as to authorize the Superintendent of Public Works and certain of his subordinates to impose such fines, not exceeding the sum of \$25 for each offense, as is deemed reasonable for violation of the rules and regulations covering canal use, and that the offender's boat may be detained until such fine is paid.

DAMAGE TO CANAL STRUCTURES

The canal system consists of more than 600 miles in length and has over 1,000 bridges, locks and miscellaneous structures. It reaches into almost every part of the State. Therefore, it is

inevitable that damage will be yearly sustained, the extent of the loss depending entirely on the violence of the elements. During the year just past, the canal structures were subjected to considerable damage. Unprecedented flood conditions prevailed in the western part of the State last winter and again in early spring, extending even to the summer months. As a result of the January storm, the old canal dam at Tonawanda was completely destroyed. The establishment of canal navigation between this point and Buffalo being dependent upon this structure, the work of rebuilding was begun without delay. A new dam was built by contract and was completed at a cost of \$37,989.13 payment being made from the department's extraordinary repair fund, in which fortunately a sufficient balance remained from the previous year.

During the closing days of March, and early in April, a flood visited Tonawanda Creek and vicinity. The towing path and embankment for more than 800 feet were destroyed together with an adjacent highway and the New Home and Bush's bridges were damaged, the former being entirely undermined. This location being within the limits of the uncompleted Barge canal improvement, it was found proper to make the cost of the repairs a charge against the Canal Bond issue. In the contract awarded for construction work in this locality, the necessary replacements were included.

In June, due also to unprecedented conditions, a break occurred, in the improved canal near Port Gibson and the cost of the repairs approximated \$7,000.

In July, excessive rainfall with the consequent floods undermined the power house at Lock No. 29 and while the operating machinery was saved, the structure itself proved to be a total loss. It is estimated that the re-construction work will cost in the neighborhood of \$40,000.

In September 1916, a great fire occurred at Phoenix, resulting in the destruction of almost half the buildings in the village. New Lock No. 1 with its power house and the new bascule bridge were in the path of the flames and much damage was done. To fully restore conditions to normal will require expenditures which will ultimately reach a total of more than \$8,000.

These are instances of occurrences which may be repeated at other points in other years. Not a single one of them could have been foreseen even a day in advance of their happening. While the extent of the damage caused by the elements in 1916 along the canals was in excess of the experience of previous years, yet the record of the past year emphasizes the necessity of making some provision by the Legislature to enable the department to meet such emergencies when they occur. I believe that to insure the maintenance of the canals in a good condition for navigation at all times during the season, it is essential that an emergency fund should be at the command of the department.

USE OF CANAL BRIDGES BY EXCESSIVE LOADS

The maintenance of canal bridges in such condition as will enable them to bear the burdens of modern traffic constitutes a perplexing problem. During the past year, several bridges have collapsed, and in each case, the failure of the structure was due to the attempt to pass a load over the same in excess of its capacity.

At all of the bridges spanning sections of the unimproved canal, signs have been posted warning the public that loads in excess of two and one-half tons must not cross. In spite of these signs, the structures are made use of by vehicles carrying much heavier loads and in some cases such loads have approximated eight tons. Continued disregard of the department's warning will inevitably lead to the failure of other bridges, and aside from the possibility of injury to persons who might be upon the structures at the time, the State will be put to considerable expense in repairing or rebuilding the bridges. Furthermore, in case of such accidents, claims are promptly filed against the State.

Since the greater portion of these structures are located on public highways, the department may not close them to traffic; and by reason of their obsolete type, it is not possible to strengthen them in such manner as to meet the demands of present day traffic. The only proper solution of the problem is their replacement by bridges of modern design, and as to those spanning sections of the unimproved canal channel, to be permanently retained, such course is absolutely necessary.

Under the law, even when the Barge canal shall have been completed, the existing canal between Albany and Waterford, between Rome and Mohawk, and a portion of the old canal near Syracuse, will be continued in use. On these sections, there are approximately 120 bridges of the old type. In addition to these, nearly 100 bridges, some of them more than twenty years in place, span the Black River canal between Rome and Carthage. While some are what are known as farm bridges, the greater portion of them are located on public highways, and some are on the lines of improved State highways extensively used for automobile traffic across the State and to and from the Adirondack region. The situation existing at many of these crossings demands the early appropriation of funds for entirely new construction.

In the case of those spanning portions of the canal no longer in use, the department is rapidly progressing the removal work.

In my last report, I advised you of the precautions taken to prevent accidents, which extended even so far as to serve warning notices upon those whose use of the bridges with excessive loads had come to my notice. Notwithstanding the taking of all available measures by the department to prevent the use of the bridges by loads beyond their capacity, such practice has continued in some localities.

In regard to the bridges constructed over the new Barge canal channel, so rapid has been the progress made in the type and capacity of vehicles using the State highways that some uncertainty exists in my mind as to the capacity of even some of these to bear the heavy loads now passing between localities. Some of these bridges have been in place nearly ten years and during that period the average weight of vehicles with their loads has greatly increased.

It is manifestly a duty of the State to maintain its bridges in a reasonably safe condition for public travel. Yet, nevertheless, in justice to the State, it is only fair that some limitation as to loads should be fixed. Pending the furnishing of new and adequate crossings and for the purpose of deterring to some extent the taking of dangerous risk by bridge users, I believe legislation should be enacted declaring that the use of canal bridges by loads

beyond their stated capacity, resulting in accident, would constitute contributory negligence on the part of the person or persons thus using them. This would mean that those disregarding the warning signs on bridges would do so entirely at their own risk and that should failure of the bridge result, the State would not be responsible.

I am aware that this is not a solution which fairly meets the bridge situation but the suggestion is made in line with the department's endeavors to spare no effort to prevent accidents which may result in personal injuries and even loss of life.

The necessity of providing new and adequate canal crossings on important highways is most urgent, and the appropriation of the moneys required should not be delayed. There are at least 25 bridges which should be replaced at once and this work could be performed at an average cost of \$18,000 per bridge.

I recommend this whole subject to your immediate and earnest consideration.

BRIDGES SPANNING ABANDONED CANAL

The necessity for removing the bridges over the abandoned sections of the old canal was discussed in my previous report. By Chapter 646 of the Laws of 1916, there was appropriated the sum of \$37,100 for this purpose. As soon as weather conditions would permit last spring, the work was commenced and during the past summer 39 of the old bridges were removed. These were mainly on the Champlain canal and on the Erie Eastern Division of the canal.

In addition, negotiations have practically been concluded between the department, the city of Schenectady and the Schenectady Railway Company covering the removal of the bridge at State street, Schenectady, the cost of this work to be divided between the State, the city and the railway company.

The bridges taken down during the past year and replaced by earth fills through which large pipes or concrete drains were constructed to take care of the surface water in the old prism, were as follows:

EASTERN DIVISION, ERIE CANAL

- Bridge No. 25, Alexander street, Cohoes.
- Bridge No. 30. Manor avenue, Cohoes.
- Bridge No. 38, Dunsbach Ferry.
- Bridge No. 48, Vischer Ferry.
- Bridge No. 65, Maisers, Rotterdam.
- Bridge No. 67, O'Laughlins, Rotterdam.
- Bridge No. 73, Bices, Rotterdam.
- Bridge No. 74, Pattersonville.
- Bridge No. 82, Fort Hunter.
- Bridge No. 92, Canal street, Fultonville.
- Bridge No. 94, Steam mill, Fultonville.
- Bridge No. 134, General Herkimer Home.

EASTERN DIVISION, CHAMPLAIN CANAL

- Bridge No. 19, Fitzgeralds.
- Bridge No. 21, Brick yard.
- Bridge No. 23, South street, Mechanicville.
- Bridge No. 26, William street, Mechanicville.
- Bridge No. —, Park avenue, Mechanicville.
- Bridge No. 27, Paper Mills, Mechanicville.
- Bridge No. 28, Champlain avenue, Mechanicville.
- Bridge No. 30, Half way.
- Bridge No. 34, Lake street, Stillwater.
- Bridge No. 40, Bemis Heights.
- Bridge No. 41, Upper Bemis Heights.
- Bridge No. 47, Gannons.
- Bridge No. 50.
- Bridge No. 53, Salisburys.
- Bridge No. 65, Northumberland.
- Bridge No. 69,
- Bridge No. 81, Crockers Reef.
- Bridge No. 83, Moses Kill.
- Bridge No. 88,
- Bridge No. 91,
- Bridge No. 104,
- Bridge No. 107,
- Bridge No. 112,

MIDDLE DIVISION, OSWEGO CANAL

Hinmansville.

WESTERN DIVISION, ERIE CANAL

Bridge No. 27, Peek's.

Bridge No. 32, Railroad avenue, Palmyra.

Bridge No. 34, West street, Palmyra.

Of the above, the cost of removal of bridge No. 30, Manor avenue, Cohoes, was shared equally by the State, the city of Cohoes, and the United Traction Company; Park avenue, Mechanicville, by the State, and Hudson Valley Railway Company, the village of Mechanicville to pay for the paving, sidewalks and curbing; while at Bridge No. 40, Bemis Heights, the State Highway Department co-operated to the extent of making the new fill and building a macadam roadway across the same.

As this does not cover all of the bridges which should be removed on the sections at the present abandoned and as there will be additional stretches of the old canal abandoned with the opening of navigation in 1917, I recommend that an additional appropriation of \$45,000 be made available for this purpose.

DISPOSITION OF ABANDONED CANAL LANDS

At the legislative session of 1916, your honorable body took steps by the enactment of Chapter 299 to lay down a procedure for the disposition of canal lands whose use are no longer necessary for navigation purposes by reason of the completion of the improved waterway. Such action was most wise inasmuch as the time is at hand when it will be to the State's interest to divest itself of title to large sections of such lands.

The act in question follows the general lines of the department's recommendations during the past several years. However, not all of the problems which will arise in actual disposition of the lands have been covered and it is desirable that the act be amended in some particulars at the present legislative session.

The new law amends Section 55 of the Public Lands Law and provides that

"the owner of a building located upon any land situated in a city or incorporated village, so abandoned for canal pur-

poses and not sold to a city or incorporated village as prescribed by Section 54, or upon any land or structures so abandoned for canal purposes and not within a city or incorporated village, which building shall have occupied such land for five years prior to January 1st, 1916, shall have a preferential right to acquire the land occupied by such building at the appraised value thereof."

Almost since the construction of the canals, a custom has existed in the department of granting applications for various privileges with relation to canal lands. These privileges cover all manner of constructions which do not interfere with the navigation of the canal nor prove detrimental to the proper use of the canal lands. The privilege granted in every case has been in the form of a permit revocable at the department's pleasure and with the reservation of the right to direct the holder of such permit to remove any construction from State land forthwith. While such permission by its very terms has no stronger force than a naked license to occupy canal lands, and in fact structures placed thereon are maintained through sufferance of the State authorities only, yet many substantial constructions exist on lands to which the State has title.

An examination of the records of this office and those received by it from its predecessors, the canal commissioners, show over 2,000 encroachments on canal property. These encroachments vary in extent from a few feet to the entire site of the structure. Among them are city halls, banks, dwelling houses, breweries, barns, shops, business blocks, mills, factories and all manner of buildings, while many miles of railroads, telephone, telegraph and transmission lines are noted. Many permits exist for underground privileges, there being hundreds of pipe lines and conduits laid across and underneath the canal prism and along its banks.

The rental received for such wholesale occupation is insignificant as compared to the value of the privileges and in fact no consideration at all appears in the permits granted previous to a few years ago.

According to an investigation made into this subject by me during the past year, title to buildings and other property located

on State land has been the subject of testamentary disposition and been handed down from generation to generation. Many of the occupants of State land seem to have lost sight of the fact that their presence on canal property is without legal basis but have come to view the land occupied by them as their own.

As an indication of the extensive use of canal lands, I give the following summary of encroachments which upon further investigation may be found to be in reality less than the actual number:

Air domes	1	Factories	90
Bakeries.....	2	Farms and pastures....	78
Band stands.....	2	Fire houses	4
Banks	1	Foundries	7
Barns	212	Freight houses	5
Bill boards	6	Freight storage	1
Boat houses	174	Garages	35
Boat liveries	1	Gardens	26
Boat yards	2	Gas houses	3
Boiler rooms and houses.	4	Gas tanks	1
Bottling works	3	Groceries	6
Breweries	2	Halls	2
Business blocks	8	Hen houses	5
Business (shops)	14	Hose houses	1
Cafes	2	Hotels	26
Car barns and sheds....	1	House boats	8
Carpet cleaning works..	2	Ice houses	35
City halls	2	Institutions	1
Club houses	2	Laundries	3
Coal sheds	51	Liveries	9
Coal trestles	4	Lumber conveyors.....	1
Coal yards	17	Lumber storage	11
Cold storage.....	4	Lumber yards	16
Cottages and camps....	80	Malt houses	10
Creameries	6	Marble and stone yards..	6
Derricks	1	Markets	1
Distilleries	1	Milk stations.....	1
Docks	3	Mills	45
Dry docks	9	Moving picture places...	3
Dwellings	381	Offices	24

Parks	1	Shops, wagon	2
Potteries	1	Sign boards	1
Power houses	10	Stables	4
Pump houses	5	Stone loaders	1
Railroad siding	1	Stone yards	1
Railway stations	1	Storage	65
Saloons	14	Storehouses	57
Sand loaders	2	Store rooms	2
School houses	2	Stores	217
Sheds	159	Stores and dwellings	1
Shops	27	Stores and grist mills	1
Shops, bake	4	Stores and flats	1
Shops, barber	4	Tabernacles	1
Shops, blacksmith	17	Temples	1
Shops, boat	4	Theatre approach	1
Shops, boiler	1	Theatre	1
Shops, carpenter	3	Tool houses	2
Shops, carriage	2	Warehouses	5
Shops, cooper	5	Wagon yards	1
Shops, harness	1	Water tanks	1
Shops, junk	5	Yards	43
Shops, machine	1	Telephone and power	
Shops, paint	3	poles and towers	13,256
Shops, shoe	1	Railroads	1,548,187
Shops, tinsmith	3	Square feet + 35 Miles	

In the above statement, pipe lines or other underground structures have not been listed owing to the difficulty in giving accurate information concerning the same.

The large amount of space occupied by railroad tracks and transmission lines will be noted and these constitute to a considerable extent the main lines of the companies.

I find no provision in the law recently enacted dealing with these occupants other than as set forth in the extract quoted above from Section 55 of the act. Whether or not the term "building" may be deemed to cover all of the privately owned structures on State land, I am not certain, but for the purpose of making the provisions of the statute in this regard more clear, all types of property should be referred to.

There is wisdom in the provision which gives to the owner of a building in place for a considerable time a preferential right to acquire the abandoned land occupied by it under the conditions stated; but the limitation of such preferential right to those occupying the land "for five years prior to January 1st, 1916" may possess unfair elements. During the past five years, substantial structures have been erected on State land under permits from this department and in case of those granted during the past two years at least, yearly sums are being paid to the State for the privilege. It would appear to me to be but fair that the preferential right contained in Section 55 should be extended to this class of occupants.

To better cover the situation, I suggest an amendment to the law which will provide that the owner of a building "or other structure" located upon the land referred to in the section, which building "or other structure" shall have been in place under permission duly granted by the Superintendent of Public Works shall be included in the same class as to preferential right to purchase the land actually occupied.

In cases where underground construction exists under permit from this department, difficulties will arise in connection with the conveyance of title unless some provision is made regarding them.

I recommend these questions to your earnest consideration to the end that the new law will be so perfected as that the State will be enabled to obtain the full value of the lands proposed to be sold.

SHINNECOCK AND PECONIC CANAL

In January last, I called your attention to conditions existing in the Shinnecock and Peconic Canal on Long Island, the improvement work on which had necessarily been abandoned. By Chapter 791 of the Laws of 1913, the removal of the tide gates, at that time existing in the canal, was authorized and the construction of a lock in place thereof was provided for. Contract was duly awarded and the improvement progressed until November, 1914, when it was stopped by tidal conditions impossible to be overcome.

By direction of the department, the canal was closed to navigation and directions were given for the erection of a new cofferdam of a substantial type. Extraordinary tidal conditions continuing,

the new dam was destroyed and considerable damage done to structures on the site of the work. For an account of the proceedings then taken, I quote as follows from my report of last year:

“The situation then was given considerable study by the Engineering Department, as well as my own, with the result that it was determined that under the tidal conditions then existing, it would not be possible to construct the lock at the location planned unless the canal channel were first tightly closed, and the cost of such work was estimated at \$10,000. It was found, however, that if the work were to be progressed the funds available for the improvement would be entirely inadequate. Furthermore, the experience of the department in the past in connection with the work on this canal showed that any attempt on the part of the State authorities to close the waterway by a substantial dam for any considerable length of time would be most vigorously contested by users of the canal. About this time the State authorities were notified by the United States Government that the Shinnecock and Peconic canal was a part of the navigable waters of the United States and that the same might not be closed to navigation and no work performed therein without the approval of the Federal authorities. This contention, however, was and is disputed both by this department and the Attorney-General of the State, for the reason that the canal was constructed by State moneys in 1884 and since then the State has expended considerable sums upon its improvement. Also, in 1913 the Legislature by chapter 229 declared the waterway a part of the State's canal system.

Therefore in view of the physical, financial and legal conditions surrounding the work, I saw no other course to follow than to direct the contractor to suspend all work on the contract. This I did, and at once presented the matter to the Canal Board for determination. The whole subject having been referred to a committee consisting of the Attorney-General, the State Engineer and Surveyor, and the Superintendent of Public Works, the contract was cancelled and the work abandoned, upon the recommendation of such committee.”

The Shinnecock and Peconic Canal is less than one mile in length and connects Shinnecock Bay with Great Peconic Bay. Its principal purpose is to restore and maintain a proper level of water in Shinnecock Bay, to further the fishing, oyster and clam industries and to relieve and prevent stagnant water conditions existing in the bay.

The tide gates which were removed during the progress of the last improvement had been in place since about 1896 and were used for the regulation of the water. By means of these gates, the water entering Shinnecock Bay at high tide was prevented from returning at ebb tide. It was also possible for boats to pass through the canal at high tide. At the present time, neither the tide gates nor the lock is in place.

Present conditions in Shinnecock Bay, through lack of water, are not good and may ultimately prove unhealthful. There is considerable growth of weeds which prevents boating operations and to promote the fishing industry means must be provided for the retention of the salt water.

I therefore recommend this whole subject to your serious consideration. I believe that the improvement planned in 1913 should be carried out, either by the restoration of the tide gates or the construction of a lock which will answer the same purposes. If an appropriation in sufficient amount shall be made, the disputed question of jurisdiction over the canal may be taken up with the Federal Government and determined.

OWASCO LAKE OUTLET IMPROVEMENT

Chapter 654 of the Laws of 1913, provided an appropriation of \$20,400 for repairs to the west pier at the foot of Owasco Lake and for dredging the Owasco Outlet. The contract for the improvement was duly awarded to S. V. R. Malcolm & Son, of Medina, and the work was progressed until the fall of 1914. At that time the contract was abandoned. The contractor's sureties securing Z. T. Darrow & Son of Canandaigua, to complete the improvement, the contract was duly assigned to that firm. The improvement again went forward until the summer of 1916, when this contractor, too, failed to complete the contract. The contract

was thereupon canceled and the contractor and his sureties notified that any excess in the cost of completing the work over the amount for which the contract was originally awarded, would be charged to them.

Upon an examination of the work performed, and the portion yet to be done, it was found that the estimate of cost of completing such unfinished work would exceed the balance remaining available in the appropriation. There were no means, therefore, at hand for the department to complete the improvement. I call your attention to the situation as it exists and if the intention of the original appropriating act is to be carried into effect, an additional appropriation of \$5,000 will be necessary. Under the ruling of the Attorney-General, no action may be begun against the defaulting contractor or his sureties until the completion of the whole project as originally planned.

IMPROVEMENT OF ELLICOTT CREEK

Chapter 624 of the Laws of 1913 made an appropriation of \$80,000 for the deepening of the channel of Ellicott creek from the Erie canal to the city line of the city of Tonawanda and for the repair of the bridges crossing the same. The contract was duly awarded in November, 1914, to Frank L. Cohen, of Buffalo, N. Y., and the work was progressed by him until about January, 1916, when the work was suspended. The contractor declined to further progress the work making claims for extra compensation which could not legally be granted. Upon his continued refusal to carry on the work, the contract was duly cancelled. Plans and specifications were prepared for the completion of the unfinished work but it was found impossible to re-let the contract owing to the fact that the lowest bid received was in excess of the moneys available. The balance remaining in the appropriation is approximately \$25,000.

While a considerable portion of the work already has been done, I call the matter to your attention so that if the full intent of the original act is to be carried out, an additional appropriation of at least \$25,000 will be necessary.

BARGE CANAL IMPROVEMENT WORK

During the year 1916 the following contracts for the improvement of the Erie, Oswego and Champlain canals, provision for which was made under chapter 147 of the Laws of 1903 and amendatory laws, were completed:

On the Erie canal, Contracts Nos. 14-B, 18-A, 22, 30 and 130.

On the Champlain canal, Contract No. 72-A.

Included in the above list on the Erie canal are Contracts Nos. 18-A and 30, which cover 23½ miles of the Mohawk river improvement. Commencing at the Hudson river at Waterford, the Erie canal as far west as Sterling creek is completed, with the exception of a slight amount of work remaining to be done under Contract No. 20-D, in the vicinity of Cranesville and Rotterdam, and the cutting through of some sections of the old canal east of Mohawk, the retention of which was necessary during the past season in order to maintain navigation on the old canal west from Jacksonburg.

From Sterling creek, which is a short distance east of Utica, to Oneida lake, the canal work is either completed or so far advanced that by the opening of navigation in 1917 it will be available for use by boats planned for the 12 foot depth. There will thus be opened for navigation in 1917 the new canal to improved dimensions from the Hudson river to Oswego, as the improved canal has been for a year past in service from Oneida lake to Oswego.

From Three River Point westerly the use of the improved Erie canal by boats drawing 12 feet of water is prevented in the main by the non-completion of the improvement through the Montezuma marshes, and across country south of the city of Rochester from King's Bend to South Greece. Contracts for the completion of these stretches of the canal have been let and vigorous progress made during the past year, so that there seems no doubt that the entire stretch of new canal westerly from Three River Point to Buffalo, will be available to the 12 foot depth by the opening of navigation in 1918.

During the past year agreements have been perfected with the various railroads resulting in the elimination of obstacles which have heretofore existed at the various railroad crossings. Work under these agreements is progressing rapidly at the two main line crossings of the New York Central Railroad at Lyons and

just west of Rochester, while satisfactory progress is also being made where the canal crosses the Lehigh Valley and the Erie Railroads just south of Rochester. West of the Genesee river agreements have been entered into with the Pennsylvania Railroad Company for the elimination of its crossings.

On the Oswego canal the work done during the past year has resulted in the completion of the improved channel to its full depth and width from Oswego to Mud Lock, and also through the Onondaga Outlet and Onondaga Lake to Syracuse.

On the Champlain canal: At the beginning of the past navigation season traffic was turned from the old canal into the river from Northumberland south. The conditions of navigation were bettered as the season advanced, and it is expected that with the opening of navigation in 1917 the entire length of the Champlain canal will be available for boats planned for 12 foot depth.

During the past year the work in progress under the provisions of chapter 147 of the Laws of 1903, and amendatory laws, has made excellent progress. Between January 1, 1916, and December 1, 1916, thirty-two contracts, amounting to \$6,131,116.00 have been awarded. The total work done to December 1, 1916, on the Erie, Oswego and Champlain canals, amounts to \$83,059,574.00. Included in the contracts awarded during the past year provision is made for a heavy concrete apron below the gates at the north end of the Vischer's Ferry dam. This is done with a view to drawing off the water from the pool above that dam in the fall, so as to restore as nearly as possible the former river conditions and avoid the danger from floods. A contract will soon be awarded for the necessary apparatus for raising the gates in question.

A contract has been let for installing a taintor gate at the head of the flight of old locks at the Waterford side-cut, to automatically control the level between new Erie canal locks 2 and 3.

CAYUGA AND SENECA CANAL IMPROVEMENT

On the Cayuga and Seneca canal, the improvement of which was authorized by chapter 391 of the Laws of 1909, the following contracts have been completed within the past year: Contracts "B", "E" and "G". Contract "B" provides for excavating a channel from Montezuma to deep water in Cayuga lake, from

Cayuga lake to Seneca Falls, and from Waterloo to deep water in Seneca lake, seventeen miles in all. Contract "E" provides for the construction of a lock, dam, taintor gates, and incidental work, at Waterloo. Contract "G" provides for furnishing and erecting the lock gates, lock valves and buffer beams for Locks 2, 3 and 4; the needle beam for the spillway in Dam 2; the superstructure for the taintor gates at Waterloo; the guard gates at Locks 3 and 4 and over the old canal at Waterloo.

One new contract, Contract "A-1," has been awarded during the past year. This provides for certain minor improvements in the vicinity of Lock and Dam No. 1. A small amount of dredging remains to be done on this canal, after which it will be available over its whole length for barge traffic, as soon as the work being done on the Erie canal in the Montezuma marshes is sufficiently advanced so that connection can be made with the same.

The leak which developed at the north end of the dam at Seneca Falls last year has been completely closed. The examination showed conditions at this point worse than had been anticipated, but since the repair work was finished the full head of water has been against the dam, and no indications of further trouble were observed. For the coming navigation season there will be available the completed canal, twelve-foot depth, from Mud Lock to Geneva, fifteen miles.

Since the beginning of the work on this canal contracts amounting to \$5,345,688 had been awarded up to December 1, 1916, while the work done up to the same date amounted to \$5,036,561.

SUMMARY OF IMPROVEMENT WORK

Summarizing the above, the progress of the work on the canal has been so satisfactory the past year that from present indications there will be available for navigation purposes in the spring of 1917 364 miles of new canal as follows:

Erie Canal:

Waterford to Three River Point, including	
Oneida lake	160
Lyons to Fairport	25
South Greece to Tonawanda	73

Total, Erie canal

Champlain canal:	
Waterford to Whitehall.....	61
Oswego canal:	
Mud Lock to Oswego.....	30
Cayuga and Seneca canal:	
Mud Lock to Geneva.....	15
	<hr/>
Total.....	364
	<hr/>

To the above might be added the improved Erie canal from Mud Lock west to Fox Ridge, 39 miles, which, though completed, cannot be made available for Erie canal traffic until the work now under contract through the Montezuma marshes and at May's Point is completed.

BARGE CANAL TERMINALS

During the year 1916 the following contracts for the construction of terminals under the provisions of chapter 746 of the Laws of 1911, have been completed: Terminal Contracts Nos. 2-P, paving at Albany; 15, Utica; 16, Rome; 25, Port Henry; 47, Tonawanda; 49, Spencerport; 50, Holley; and 51, Medina; while contracts have been let for the following terminals: No. 19, Green Point, Brooklyn; No. 26, Rouses Point; No. 30, Oswego; No. 31, Lyons; No. 48, Rochester; No. 51, Medina; No. 52, Pier 6, New York City; No. 53, Buffalo.

All previous contracts have provided merely for the construction of the necessary terminal walls, filling, paving, etc., but Terminal Contracts Nos. 101, 201, 202 and 203 cover the equipment of certain terminals, as follows: Contract No. 101, steel stiff leg derricks on terminal sites at Albany, Whitehall, Little Falls, Rome, Lockport and Tonawanda; No. 201, terminal warehouses at Albany and Whitehall; No. 202, terminal warehouses at North Tonawanda and Lockport; No. 203, temporary terminal warehouses at Troy, Mechanicville, Fort Edward and Port Henry. Bids for the following contracts providing for temporary terminal warehouses will be opened on January 17, 1917: Contract 204, at Schenectady, Amsterdam, Fonda, Ilion and Frankfort; Contract 205 at Utica and Rome; Contract 206 at Spencerport and Holley.

It is expected that provision will be made by the opening of the next navigation season, for such unloading facilities as may be found necessary on the various terminal docks, where sufficient traffic will warrant the installations.

Owing to the failure on the part of the contractor for Terminal Contract No. 13, to properly commence and progress the work, the contract was cancelled by the Canal Board and the work taken over by forces of this Department. This contract provided for the construction of a guard lock to provide a junction between the new Barge canal channel and a portion of the old Champlain canal extending to Schuylerville, and for the construction of a highway bridge near new Lock No. 5.

The completion of the lock before the opening of navigation on the Champlain canal was necessary and every effort was made to finish that portion of the work. This was done and no delay to the opening of the canal at this locality resulted. It is expected that the highway bridge will be in place within the next few months.

As compared with the price for which the contract was originally let a considerable excess in the cost to the State for completing the work is shown, and the difference will be charged to the contractor and his sureties to the full extent of the contract bonds. This, however, will not meet the full loss to the State inasmuch as the bond delivered was for but 10 per cent. of the contract price, and the contract price was approximately two-thirds of the engineer's estimate of the cost. This was one of the cases which led to the change in the amounts required for bonds guaranteeing faithful performance of contracts, to which subject reference is hereinafter made.

AMOUNTS OF BONDS FOR FAITHFUL PERFORMANCE OF CONTRACTS

During the past year the experience had by the Department with the progress of contract work convinced me that the amount of bond exacted by the State for the faithful performance of contracts was grossly insufficient. I found that the Barge Canal Act as originally passed provided that the security for the faithful performance of contracts should be at least 25 per cent. of the estimated cost of the work, according to the contract price. Up to 1909 the

bonds were fixed at this percentage. In that year, however, by chapter 267, the law was amended, providing that the amount of the bonds should be at least 10 per cent. of the contract price. Following the passage of this act the faithful performance bonds were fixed at only 10 per cent. Under the terminal act the amount of bonds was also fixed at a minimum of 10 per cent. of the contract price.

It will readily be seen that when a contract is awarded for a sum far below the engineer's estimate of cost the greater possibility exists for non-completion of the work, and yet under the practice which existed, the lower the bid, the lower the amount of the bond. Several instances have occurred where the State has suffered actual loss by reason of the insufficient security in hand. In one instance where the estimate of the cost of a contract was \$61,664, the lowest bid submitted was \$42,472. Inasmuch as the Department is compelled to make award to the lowest bidder, contract was entered into in spite of its fears that the work could not be completed within the amount of the proposal, and yet under the established rule the security for the performance of the work was only \$4,200, being 10 per cent. of the contract price. In this case the Department was compelled to assume the completion of the work with its own forces, and the cost of the same will exceed even the engineer's estimate. Against the apparent loss the State may only collect the full proceeds of the bond, in amount \$4,200.

Therefore in August, last, I called the whole matter to the attention of the Canal Board, with the result that action was taken by it on my recommendation fixing the penalties of bonds for the faithful performance of contracts in higher amounts as follows:

In all cases it shall not be less than 20 per cent., but in contracts of \$50,000 or less the bonds shall be 50 per cent. of the contract price, and in the case of the larger contracts the amount of the bonds shall be fixed by the Superintendent of Public Works, by and with the advice and approval of the Canal Board, after due consideration has been given to the characteristics of the contract, the nature of the work, and the hazards involved, provided, however, that in no case shall the bond be less than 20 per cent. It is believed that the new ruling will to some degree save the State from further loss arising from defaulting contractors.

SPECIAL IMPROVEMENTS

I beg to submit the following information relative to special acts of the Legislature providing funds for the use of this Department in progressing improvements or other special purposes:

Under the appropriation of \$45,000 made by chapter 255 of the Laws of 1916, after due competition contracts were awarded for furnishing towing facilities on the completed sections of the new canal. Five towing tugs were hired for use on the canalized Mohawk river and two tugs between Wayneport and Newark. The services rendered were satisfactory to the boatmen.

With the funds provided by chapter 708 of the Laws of 1915 for painting of canal structures, the work was continued during the past year and brought to an end within the limits of the appropriation.

The work authorized by chapter 705 of the Laws of 1915, authorizing the repair of the canal feeder wall on Main street, Oneida, was completed.

Chapter 699 of the Laws of 1915, provided funds for the construction of a bridge over the junction of the Black and Moose rivers at Lyons Falls. This work was placed under contract in 1915 and was brought to a close during the past fall.

The improvement of the channel and banks of the Mohawk river, and West Canada creek at Herkimer, under the provisions of chapter 245 of the Laws of 1915 and chapter 728 of the Laws of 1915 was further progressed during the past year and is now practically completed.

The improvement of Sawyers creek under the provisions of chapter 531 of the Laws of 1914 was completed.

Chapter 750 of the Laws of 1913 and chapter 728 of 1915 authorized the improvement of Canisteo river at and near the city of Hornell. This improvement is practically completed.

The Fulmer creek improvement as authorized by chapter 709 of the Laws of 1915 was progressed by Department forces and completed.

The work of lowering the bridge at Virginia street, Waterloo, under the provisions of chapter 701 of the Laws of 1915 was undertaken by Department forces and successfully accomplished; as was also the improvement of Dry river, Watervliet, under

chapter 707 of the Laws of 1915 and the improvement of Eighteen Mile creek as authorized by chapter 727 of the Laws of 1915.

Other contracts completed during the past year included the construction of a highway bridge over the Mohawk river at Movable Dam No. 5 between the towns of Glenville and Rotterdam under chapter 278 of the Laws of 1915; the improvement of Bergholz creek under the same act; the construction of a steel plate girder bridge over the Erie canal at Clinton street, Whitesboro, as authorized by chapter 704 of the Laws of 1915 which was placed under contract early in the year; the improvement of Three Mile harbor in Suffolk county pursuant to the provisions of chapter 247 of the Laws of 1914; and the building of a new bridge at Yorkville.

During the year 1916, the following work was placed under contract and is now under way:

Contract No. 1, providing for the construction of dikes, deepening and straightening of the channels and the building of walls and culverts along the Allegany river and Olean creek at Olean; and Contract No. 2, providing for the installation of pumping stations in connection with the same improvement; all as authorized by chapter 717 of the Laws of 1915.

For the improvement of Chadakoin river, known as the Chautauqua Lake outlet in the city of Jamestown as authorized by chapter 728 of the Laws of 1915.

For the construction of a foot bridge between the north and south walls of Lock No. 3, Cayuga and Seneca canal at Seneca Falls as authorized by chapter 701 of the Laws of 1915.

For the construction of a bridge over the Oswego canal and Barge canal at Minetto as authorized by chapter 716 of the Laws of 1915.

BUREAU OF APPRAISAL AND CLAIMS

The work of this Bureau has to do with claims of every kind and nature brought or proposed to be brought against the State on account of the canals, their maintenance, operation and improvement.

In the case of lands appropriated by the State for use in connection with the improvement projects now under way, every effort has been made by the Department to effect fair and reason-

able settlements without recourse to the Court of Claims. This is not only just to the person from whom the property has been taken, in that he may more speedily receive the compensation which may be due, but also that the vexatious delays and expense involved in litigation might be avoided. Appraisals have followed immediately upon the taking of the property and careful observations made of conditions existing at that time. As soon thereafter as is practicable conference was had with the property owner and negotiations for prompt settlement begun.

During the year 1916, 265 settlements were made covering the taking of property. These agreements covered 282 separate parcels of land located on 69 different contracts and had a total in money of \$1,763,276.02. Of this total 13 of the agreements, amounting to \$546,308.05, covered appropriations made in connection with the terminal improvement project. The settlements made included eight agreements with railroad companies covering damages resulting from readjustment of their lines and the necessary reconstruction of bridges on account of the progress of the canal improvement work. These had a total of \$1,072,040.64. There are also two agreements covering the acquisition of property in Greater New York for terminal purposes, which have a total of \$516,052.75.

The work of the Department in the matter of claims filed shows excellent results. Where, by reason of the excessive demands of claimants or in case of doubt as to liability of the State to respond in money damages, evidence in support of the State's contentions has been collected in a painstaking manner. Agents of the Department have been promptly at the scene of every occurrence which it was deemed might lead to a claim against the State and full data and information has been secured at a time when the occurrence was fresh in the minds of witnesses and the condition prevailing undisturbed.

There were 978 claims filed against the State during 1916 on account of the canals, having a total of \$18,849,945.30. These claims were classified as follows:

Those arising from the progress of the improvement work being in number 830 and totalling \$17,227,250.60.

Those on account of the terminal construction work, of which there were 26 in number, with a total of \$1,384,057.15.

And those arising from the maintenance and operation of the present canal system, of which there were 122, having a total of \$238,637.55.

Of the claims filed on account of the Barge canal and terminal improvement work, the largest was that of the Consolidated Water Company of Utica, in amount \$10,000,000, for alleged damages arising from the construction of the reservoir at Hinckley. This claim is practically a duplicate of the one filed during 1915, being in the same amount and having the same subject matter.

Sixteen claims amounting to \$2,921,436.45 have been filed by contractors for canal construction work relative to matters growing out of their contractual relations; 126 claims, having a total of \$178,423.56, covering damages said to have been caused by the overflow of the Mohawk river at Schenectady; three claims for alleged damage to water power rights amounting to \$192,000; and 52 claims aggregating \$99,176.53 for damages said to have been caused by overflow at the Phoenix dam. The remaining claims alleged damages growing out of the reconstruction of bridges, interference with transmission lines and overflow from canal waters. For appropriations of land for Barge canal and terminal purposes for which no settlements were made, 298 claims have been filed, demanding a total of \$3,092,476.91.

The issues in the case of 1,017 claims were tried by the Court of Claims. Of this number twenty-two were on account of damage from leakage, the recoveries had amounted \$3,865.88, as compared with a total of \$7,980.31 demanded by the claimants. In the case of twenty-three claims for overflow of canal waters, having a total of \$50,597.20, awards to the extent of \$5,685.50 only were secured. The personal injury claims disposed of numbered thirty-one, with a total demand of \$285,657. The awards, however, amounted to \$20,907.50. Five claims, with a total of \$4,943, covering alleged damages on account of a break in the canal bank near Lock 64 were successful to the extent of only \$250, although a total of \$4,943 was sued for. In the case of fifteen claims brought against the State covering damages for miscellaneous nature, awards were made to the amount of \$11,649.05, as compared with a total asked of \$43,422.76.

In twenty-five claims, having a total of \$179,574.68 no awards have as yet been made.

In the case of seventy-five claims, having a total of \$128,001.30, filed on account of alleged damages by reason of canal operation, no recoveries whatever were secured by the claimants.

It therefore appears that of the 147 claims arising from the maintenance of the present canal system finally determined by the court, recoveries were had to the amount of only \$65,845.72, as against a total of \$372,511.95 demanded by the claimants, the awards being a little more than 17 per cent. of the total of the claims.

In the total of claims disposed of given above 489 were brought on account of the Barge canal improvement work, having an aggregate total of \$9,449,970.81, from which the awards amounted to \$1,452,293.71. In this number were fifty-six claims, having a total of \$1,670,604.89, in which final decision has not as yet been reached by the court, leaving 433 Barge canal claims finally disposed of, with recoveries of \$1,452,293.71, as against \$7,779,365.92 demanded by claimants.

There were twenty claims tried growing out of the terminal improvement and in these awards have been made of a total of \$22,137.50 in the case of fourteen, as against a total of \$133,931.80 demanded. In the case of six claims, having a total of \$2,180,825.17, final determination has not yet been made.

There were 336 of the so-called Barge canal claims, having a total of \$5,386,374.65, which were dismissed with no awards whatever.

Among the large awards made by the Court of Claims during the year 1916, with the amounts demanded, were the following:

Claimants	Amount claimed	Amount of award
Salmon River Power Company...	\$607,550 00	\$100,000 00
Adirondack Woolen Company....	475,000 00	65,000 00
Hinckley Fibre Co., (4 claims).	3,433,665 56	175,000 00
Consolidation of fourteen Seneca Falls claims	540,248 01	540,248 01
Acme Eng. & Contracting Co....	281,210 48	100,000 00
Thomas I. Clary et al.	573,803 03	25,000 00
Central Dredging Co.	104,085 99	20,000 00

Claimants	Amount claimed	Amount of award
Lehigh Valley R. R. Company (3 claims)	\$93,496 00	\$30,000 00
Horace W. Knight	100,000 00	3,000 00
I. M. Ludington's Sons, Inc.	172,675 04	44,226 91

I believe the excellent work of this bureau is disclosed by the figures given above. Every effort has been made to secure to each claimant exact justice, and at the same time claims without legal basis or in excessive amounts have been vigorously contested. Those having recourse to the Court of Claims have been afforded early opportunity for the trial of disputed issues, and to prevent the undue accrual of interest against the State prompt trials have been insisted on. It is gratifying to note that there was not a single instance where the trial of a claim was postponed on account of the State officials being not ready to go forward with the case.

INSPECTION OF STEAM AND MOTOR VESSELS

Pursuant to the provisions of the Navigation Law, by chapter 42 of the Laws of 1909, the Superintendent of Public Works has supervision over the navigation of the State's inland waters. For the purpose of carrying out this duty, two inspectors are employed who make inspections of craft used for the carrying of passengers or freight for hire or towing for hire, as well as examining the qualifications of those as candidates for licenses for masters, pilots and engineers.

During the year 1916, there were issued 231 joint pilot and engineer's licenses, of which 52 were of original issue and 179 renewals of former licenses; 151 licenses to engineers, of which 59 were original and 92 renewals; 84 pilot's licenses, 29 being of first issue and 55 renewals of former licenses and 47 master's licenses, of which four were originals and 43 renewals.

There were 312 vessels inspected, of which 231 were motor boats and 81 steamers. Certificates were issued to all but eight of these vessels, the certificates being withheld pending the supplying of required equipment or the making of necessary repairs. In the case of twenty-eight steamers and motor boats, deficiencies in

equipment were discovered and repairs found necessary and these craft were not allowed to be placed in commission until the omissions had been supplied.

A total of \$4,028.50 was collected under authority of section 34 of the statute for the issue of certificates and licenses and this amount was deposited in the State treasury.

The Department is pleased to report that so far as its knowledge goes, there has not been a single accident in connection with any of the vessels coming under the jurisdiction of the navigation inspectors which resulted in loss of life or injury to passengers.

AMOUNTS COLLECTED

The total amount collected by the Department for the twelve months ended December 1, 1916, was \$36,949.96. This covered considerations imposed in permits for privileges on canal lands, for the cutting of ice from canal waters, the sale of gravel and sand, old iron, steel and timber and other miscellaneous material, together with fees charged by the Department for inspections and licenses under the Navigation Law and for the filing of mortgages and liens.

While the Department has endeavored to foster and encourage to every extent business activities along the line of the canal, yet in the granting of privileges of any kind in connection with the use of the canal lands, it has sought to impose such reasonable charge as will bring to the State a fair revenue.

The amount collected equals 85 per cent. of the total salaries of the administrative force in the Albany office and was received from some sources which heretofore had yielded nothing.

CONCLUSION

Annexed will be found statements showing the details of expenditures made by the Department, as well as a full account of bids received for the various contracts advertised and of the payments made to contractors; also reports of the assistant superintendents and of the superintendents of repairs, describing in considerable detail the repair and construction work performed by them during the past year. I also submit statement of the moneys collected by the Department from all sources and deposited in the State Treasury, as required by law.

Finally, I desire to take this public means of expressing my appreciation of the loyalty shown me by the subordinate officials of the Department whose efficient services have enabled me to successfully administer the State affairs. I also desire to express my appreciation of the assistance rendered by the State Engineer and Surveyor and the officials under him in work with which both Departments have had part.

Respectfully submitted,
WILLIAM W. WOTHERSPOON,
Superintendent of Public Works.

STATEMENT, No. 1
Statement of expenditures, ordinary repairs, October 1, 1915, to June 30, 1916

CANALS	Sections	By Superintendent of Public Works	By assistant superintendents of public works	By superintendents of canal repairs	Total each section	Total each canal
Erie.....	1	\$10,576 86	\$33,407 28	\$43,984 14	\$376,174 24
Erie.....	2	.....	17,392 44	23,135 02	34,521 06
Erie.....	3	.....	18,123 54	25,804 42	38,932 86
Erie.....	4	.....	6,054 75	20,059 26	23,214 00
Erie.....	5	.....	9,053 09	13,302 81	22,356 50
Erie.....	6	.....	2,475 91	13,293 04	22,769 55
Erie.....	7	.....	4,570 53	8,529 47	13,400 00
Erie.....	8	.....	14,766 73	28,758 12	43,524 84
Erie.....	9	.....	17,849 42	39,925 46	49,766 10
Erie.....	10	.....	9,240 47	33,230 77	42,538 44
Erie.....	11	.....	20,989 86	18,098 77	39,088 55
Champlain.....	1	\$12,478 27	\$19,708 27	\$32,186 54	82,196 43
Champlain.....	2	.....	5,377 13	24,061 86	28,439 01
Champlain.....	3	.....	5,621 08	15,949 20	21,570 88
Oswego.....	\$6,419 14	\$26,770 32	\$33,189 46	33,189 46
Cayuga and Seneca.....	\$4,308 92	\$6,292 56	\$10,601 48	10,601 48
Black River.....	13,352 73	19,057 58	32,410 31	32,410 31
DIVISION EXPENSES		131,655 75
Eastern.....	.....	.....	\$49,678 08	.....	\$49,678 08
Middle.....	.....	.....	31,095 88	.....	31,095 88
Western.....	40,882 29	40,882 29	44,683 23
GENERAL EXPENSES		.....	.....	.....	.....
Erie.....	.....	.....	.....	.....	.....
Oswego.....	\$44,683 23	44,683 23
Total.....	4,094 25	4,094 25
Total.....	\$705,485 15

STATEMENT NO. 1 — (Concluded)

Statement of expenditures for ordinary repairs and operating expenses on New York State canals, by divisions, from October 1, 1915, to June 30, 1916

	CANALS	By Superintendant of Public Works	By assistant superintendents of public works	By superintendents of canal repairs	Totals
Eastern Division.....	Erie.....	.....	\$42,742.59	\$102,409.57	
Eastern Division.....	Champlain.....	.....	22,477.10	56,719.33	
Eastern Division.....	Division expenses.....	.....	49,678.08	.....
			\$114,897.77	\$162,128.90	\$277,026.67
Middle Division.....	Erie.....	.....	\$23,080.13	\$35,425.92	
Middle Division.....	Oswego.....	.....	6,419.14	26,770.32	
Middle Division.....	Cayuga and Seneca.....	.....	4,308.92	6,292.56	
Middle Division.....	Black River.....	.....	13,352.73	19,057.58	
Middle Division.....	Division expenses.....	.....	31,095.38	.....
			\$78,256.30	\$87,546.38	165,802.68
Western Division.....	Erie.....	.....	\$61,843.29	\$110,672.74	
Western Division.....	Division expenses.....	.....	40,882.29	.....
			\$102,725.58	\$110,672.74	213,398.32
General expenses.....	Erie.....	\$44,663.23	.....	.....	44,663.23
General expenses.....	Oswego.....	4,594.25	.....	.....	4,594.25
					\$705,485.15

Statement of all Expenditures Made by the Superintendent of Public Works, for the Operation, Maintenance and Repairs of the Canals, the Extraordinary Repairs of Mechanical and Other Structures, and Other Work and Expenses Provided for by Special Acts of the Legislature; also on Account of the "Barge Canal" and "Barge Canal Terminals."

ORDINARY REPAIR FUND

For locktending and ordinary repairs of the canals (see Statement No. 1)	\$705,485 15	
For administrative expenses (see Statement No. 2)	47,147 03	
For expenses of collectors and compilers of statistics (see Statement No. 3)	4,962 74	
For office expenses of the Superintendent of Public Works and three Assistant Superintendents of Public Works (see Statement No. 4)	32,692 25	
	<hr/>	\$790,287 17

EXTRAORDINARY REPAIR FUND

For repairs and improvements of existing mechanical and other structures and works on and connected with the canals of the State: Chapter 237, Laws of 1915 (see Statement No. 5)	84,916 67
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SPECIAL APPROPRIATIONS

Expended for various purposes (see Statement No. 6)	449,634 59
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"BARGE CANAL ACT"

Expended as shown on Statement No. 7	4,251,642 06
--------------------------------------------	--------------

"BARGE CANAL IMPROVEMENT,
CAYUGA AND SENECA CANAL"

Expended as shown on Statement No. 8	415,310 10
--------------------------------------------	------------

"BARGE CANAL TERMINAL ACT"

Expended as shown on Statement No. 9..... \$908,308 87

\$6,900,099 46

STATEMENT No. 2

Statement of Administrative Expenses from October 1, 1915, to July 1, 1916

William W. Wotherspoon, Superintendent of Public Works, salary and expenses.....	\$7,874 91
Henry D. Alexander, Deputy Superintendent of Public Works, salary and expenses.....	4,874 85
Alfred M. O'Neill, Assistant to Deputy Superintendent of Public Works, salary.....	2,999 88
David H. Lewis, Assistant Superintendent of Public Works, salary and expenses.....	1,789 99
W. Seward Hamlin, Assistant Superintendent of Public Works, salary and expenses.....	842 87
David S. Burleigh, Assistant Superintendent of Public Works, salary and expenses	2,837 47
Henry A. Kunze, Assistant Superintendent of Public Works, salary and expenses.....	2,831 62
Edgar L. Peddie, Superintendent of Repairs, section 1, Erie..	1,336 50
James Scanlon, Superintendent of Repairs, section 2, Erie...	1,336 50
Frank W. Reynolds, Superintendent of Repairs, section 3, Erie.	1,336 50
William Brennan, Superintendent of Repairs, section 4, Erie.	1,336 50
John C. Dillon, Superintendent of Repairs, section 5, Erie...	1,336 50
Elmer J. Clark, Superintendent of Repairs, section 6, Erie...	1,336 50
A. B. Hallett, Superintendent of Repairs, section 7, Erie....	1,336 50
Harvey C. Watson, Superintendent of Repairs, section 8, Erie.	1,336 50
Jacob Allmeroth, Superintendent of Repairs, section 9, Erie...	1,336 50
Frank Wilson, Superintendent of Repairs, section 10, Erie...	1,336 50
Richard Humphrey, Superintendent of Repairs, section 11, Erie	1,711 44
John B. Hutchins, Superintendent of Repairs, section 1, Cham- plain	1,336 50
Patrick O'Grady, Superintendent of Repairs, section 2, Cham- plain	1,336 50
Henry Neddo, Superintendent of Repairs, section 3, Cham- plain	1,336 50
Myron A. Stranahan, Superintendent of Repairs, Oswego canal.	1,336 50
George A. Dobson, Superintendent of Repairs, Cayuga and Seneca canal	1,336 50
Fred M. Woolley, Superintendent of Repairs, Black River canal	1,336 50
	<hr/>
	\$47,147 03
	<hr/>

Statement of the appropriations for the operation and repairs and extraordinary repairs of the canals, salaries and traveling expenses of the Superintendent, deputy, three assistant superintendents, clerk hire and office expenses, salaries of section superintendents and collectors and compilers of statistics and inspectors.

YEAR	Looktending and ordinary repairs	Repair and improvement of existing mechanical and other structures	Salaries and office expenses	Salaries of section superintendents	Salaries of collectors and inspectors and incidental expenses	Reconstruction of the embankments, slope wall and repair of other damages by flood	Total
1900.....	\$370,000 00	\$350,000 00	\$54,064 00	\$28,400 00	\$25,000 00	.....	\$1,327,464 00
1901.....	820,000 00	325,000 00	54,944 00	28,400 00	22,400 00	.....	1,250,744 00
1902.....	820,000 00	250,000 00	56,944 00	28,400 00	17,800 00	.....	1,173,144 00
1903.....	820,000 00	275,000 00	56,944 00	28,400 00	19,700 00	.....	1,200,044 00
1904.....	820,000 00	275,000 00	56,944 00	28,400 00	19,900 00	\$75,000 00	1,274,944 00
1905.....	800,000 00	200,000 00	53,644 00	27,500 00	19,900 00	.....	1,101,044 00
1906.....	775,000 00	150,000 00	53,644 00	27,500 00	18,763 00	.....	1,024,307 00
1907.....	775,000 00	125,000 00	53,644 00	26,000 00	17,263 00	.....	996,807 00
1908.....	800,000 00	125,000 00	57,019 00	26,000 00	17,263 00	.....	1,000,282 00
1909.....	800,000 00	125,000 00	59,344 00	26,000 00	17,463 00	.....	1,027,807 00
1910.....	800,000 00	125,000 00	61,144 00	26,000 00	17,463 00	.....	1,029,807 00
1911.....	824,000 00	125,000 00	63,144 00	26,000 00	17,663 00	.....	1,055,807 00
1912.....	825,000 00	150,000 00	70,644 00	26,000 00	14,653 00	.....	1,086,297 00
1913.....	825,000 00	150,000 00	71,944 00	30,800 00	14,653 00	.....	1,167,397 00
1914.....	900,000 00	150,000 00	75,744 00	30,800 00	11,570 00	.....	1,198,114 00
1915.....	930,000 00	150,000 00	75,744 00	30,800 00	9,170 00	.....	1,205,570 00
1916.....	940,000 00	150,000 00	75,800 00	30,800 00	9,170 00	.....	1,205,570 00
Total.....	\$14,064,000 00	\$3,175,000 00	\$1,033,699 00	\$471,400 00	\$298,287 00	\$75,000 00	\$19,147,396 00

NOTE.—This table will be discontinued with the year 1916 owing to the adoption of the budget form of appropriations.

STATEMENT No. 3

*Statement of Compilers of Statistics of the Tonnage of the Canals from
October 1, 1915, to July 1, 1916*

Collectors, salaries	\$2,868 65
Clerks, salaries	1,548 15
Incidental expenses, stationery, office rent, coal, etc.....	525 94
	<hr/>
	\$4,962 74
	<hr/>

STATEMENT No. 4

*Statement, Clerk Hire and Office Expenses of Superintendent of Public Works
and Assistant Superintendents of Public Works, from October 1, 1915,
to July 1, 1916*

Albany office	\$20,898 06
Eastern division office.....	3,284 64
Middle division office.....	4,575 46
Western division office.....	3,934 09
	<hr/>
	\$32,692 25
	<hr/>

*Detailed Statement of "Albany Office" Expenditures, October 1, 1915, to July
1, 1916*

Salaries and clerk hire.....	\$12,502 96
Postage stamps and box rent.....	1,412 00
Telegraphing	157 10
Telephone service	1,313 22
Stationery and printing.....	2,726 22
Newspapers and directories.....	9 00
Expressage	238 87
Drinking water for office.....	48 70
Furniture and office fixtures.....	224 08
Legislative indexes	50 00
Typewriters	158 74
Rental of typewriter	5 00
Repairs to typewriters.....	18 00
Traveling expenses	407 74
Consolidated Laws	7 50
Newspaper clippings	300 00
Sanitary drinking cups.....	44 00
Qualifying as notaries.....	10 00
Filing cases	753 44
Repairs to safe.....	15 00
Carpets and rugs.....	421 35
Cleaning carpets	23 25
Miscellaneous expenses	51 89
	<hr/>
	\$20,898 06
	<hr/>

ERIE CANAL—GENERAL

October 1, 1915, to July 1, 1916

General inspector, salary and expenses.....	\$3,475 67
Electrical inspectors, salaries and expenses.....	4,009 46
Stenographers	1,367 41
Statistician	2,084 24
Operation and maintenance of State inspection boat.....	4,983 14
Operation and maintenance of automobile.....	2,959 73
Insurance on automobiles	674 43
Repairs to middle division automobiles.....	356 11
Publishing notices, opening and closing of canals.....	580 30
Publishing notices to boat owners.....	13 00
Repairs at Lock No. 10.....	89 04
Flags	257 25
Purchase of dredge fleet.....	20,000 00
Oil for locks.....	317 83
Settlement of small claims.....	394 00
Construction of lock tender's house at Lock No. 2, Waterford.	600 00
Traveling expenses	151 12
Stationery and printing.....	1,570 08
Letters and buttons for lock employees' hats and coats.....	471 50
Electrical equipment	267 87
Miscellaneous expenses	41 05
	<hr/>
	\$44,663 23
	<hr/>

OSWEGO CANAL—GENERAL

October 1, 1915, to July 1, 1916

Construction of office building at Oswego.....	\$3,894 25
Construction of lock tender's house at Fulton.....	700 00
	<hr/>
	\$4,594 25
	<hr/>

STATEMENT No. 5

Extraordinary Repairs and Improvements of Existing Mechanical and Other Structures and Works on and Connected With the Canals of the State

Chapter 237, Laws of 1915

Unexpended balance, January 1, 1916..... \$101,207 44

EXPENDITURES OF THE YEAR 1916

Eastern Division

Locks, repair of:

Section 4, Erie:

Lock No. 45.....	\$200 50	
	<hr/>	\$200 50

Section 1, Champlain:

Lock No. 6.....	\$56 50	
Lock No. 7.....	118 90	
Lock No. 8.....	39 00	
	<hr/>	214 40

Section 2, Champlain:

Lock No. 14, Glens Falls feeder.....	\$418 16	
Lock No. 15, Glens Falls feeder.....	264 00	
		\$682 16

Section 3, Champlain:

Lock No. 12.....	\$2,144 13	
		2,144 13
		\$3,241 19

Bridges, repair of:

Section 2, Erie:

Bridge No. 71.....	\$72 50	
Bridge No. 72.....	95 00	
Bridge No. 67.....	81 00	
		\$248 50

Section 4, Erie:

Bridge No. 153.....	\$89 50	
		89 50

Section 1, Champlain:

Bridge No. 11.....	\$260 50	
Bridge No. 47.....	275 50	
		536 00
		874 00

Aqueducts, repair of:

Section 4, Erie:

Aqueduct No. 14, Ilion.....	\$68 00	
		\$68 00

Section 1, Champlain:

Aqueduct over Fish creek at Schuylerville	\$55 50	
		55 50
		123 50

Walls, repair of:

Section 4, Erie:

East of Bridge No. 139.....	\$50 00	
West of State shop at Mohawk.....	330 00	
East of Bridge No. 170.....	40 00	
		\$420 00

Section 2, Champlain:

On Glens Falls feeder.....	\$1,978 09	
		1,978 09
		2,398 09

Docking:

Section 1, Champlain:

Near change Bridge No. 6.....	\$1,327 19	
South of Bridge No. 7.....	446 50	
		\$1,773 69
		1,773 69

Section 2, Champlain:

Glens Falls feeder, repairs to.....	\$3,015 46	
		\$3,015 46

66 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

Eastern Division:

Construction of buoys.....	\$876 81		
		\$876 81	
			\$876 81
			\$12,302 74

Middle Division

Bridges, repair of:

Section 5, Erie:

City of Utica:

Schuyler street	\$315 13		
Washington street	285 03		
Whitesboro street	96 32		
John street	320 46		
Seneca street	178 71		
Broad street	344 87		
Hotel street	98 50		
Genesee street	585 55		
Power house	338 26		
		\$2,562 83	
Framing new farm bridges.....	\$347 00		
		347 00	
Bridge at Peterboro street, Canastota.	\$40 78		
		40 78	

Section 6, Erie:

City Syracuse:

Franklin street	\$376 31		
Willow street	368 80		
North Salina street.....	832 34		
South Salina street.....	396 52		
Clinton street	53 06		
Geddes street	57 83		
Catherine street	1,030 22		
West street	839 92		
State street	15 00		
First ward	10 00		
		3,980 00	

Black River canal:

Forestport bridge	\$149 25		
Glenfield bridge	105 80		
Dutch Hill road bridge, Forestport feeder	431 46		
		686 51	
			\$7,617 12

Locks, repair of:

Section 5, Erie:

Lock No. 46.....	\$37 50		
		\$37 50	

Section 6, Erie:

Lock No. 47.....	\$188 41	
Lock No. 48.....	185 98	
Lock No. 49.....	97 38	
	<hr/>	\$471 75

Oswego canal:

Lock No. 1.....	\$21 50	
Lock No. 2.....	158 40	
Lock No. 3.....	354 58	
	<hr/>	534 48

Cayuga and Seneca canal:

Lock No. 11.....	\$215 99	
	<hr/>	215 99

Black River canal:

Lock No. 7.....	\$377 23	
Lock No. 25.....	221 95	
Lock No. 26.....	301 45	
Lock No. 33.....	17 00	
Lock No. 35.....	19 25	
	<hr/>	936 88

\$2,196 60

Walls, repair of:

Section 5, Erie:

West of Broadway bridge, Utica....	\$57 75	
West of First street bridge, Utica...	88 20	
	<hr/>	\$145 95

Section 6, Erie:

Near Sullivan's bridge.....	\$60 33	
West of Bolivar bridge.....	50 00	
At Geddes street, Syracuse.....	110 50	
	<hr/>	220 83

Black River canal:

At a point where Mohawk river flows near canal, near Hillside.....	\$107 60	
	<hr/>	107 60

474 38

*Aqueducts, culverts and waste weirs,
repair of:*

Section 5, Erie:

Cowassalon aqueduct	\$293 14	
Starch factory culvert.....	3 00	
	<hr/>	\$296 14

Section 6, Erie:

Waste weir between Locks Nos. 2 and 3, Oswego canal	\$121 05	
	<hr/>	121 05

Section 7, Erie:

Richmond aqueduct	\$221 87	
	<hr/>	221 87

68 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

Northern reservoirs, repair of:

Black River canal:

Alder creek reservoir, Eberts bridge on.	\$1,332 64		
Alder creek reservoir.....	213 00		
Canachagala dam	19 15		
North lake, spillway and State house.	291 56		
South lake reservoir.....	31 88		
Woodhull State house.....	28 10		
		\$1,916 33	
			\$1,916 33

Southern reservoirs, repair of:

Section 5, Erie:

Kingsley brook reservoir.....	\$102 85		
Cutting brush, along reservoirs.....	145 03		
Repairs to bridges over feeders.....	51 79		
		\$299 67	

Section 6, Erie:

DeRuyter reservoir	\$47 00		
Erieville reservoir	361 98		
Cazenovia reservoir	131 69		
		540 67	
			840 34

Cayuga and Seneca canal:

Building two concrete light houses on Cayuga lake at Ithaca.....	\$1,203 04		
		\$1,203 04	
			1,203 04

Black River canal:

Store house at Boonville, building of.	\$56 83		
		\$56 83	
			56 83

Black River canal:

North lake road, repairs to.....	\$9 77		
		\$9 77	
			9 77

Equipment:

Division:

Dredge fleet, repairs to.....	\$2,077 49		
		\$2,077 49	

Section 6, Erie:

Scow No. 1, repairs to.....	\$318 25		
Scow No. 2, repairs to.....	326 35		
		644 60	
			2,722 09

Section 6, Erie:

Towing path, Liverpool level, repairs to	\$161 33		
		\$161 33	

Section 6, Erie:			
Stop gates, repairs to.....	\$28 00		
	<hr/>	\$28 00	
		<hr/>	\$28 00
			<hr/>
			\$17,864 89
			<hr/>
			<hr/>

Western Division

Culverts and spillways, repairs to:

Section 10, Erie:			
Spillway east of Riley's bridge.....	\$48 00		
Hodgeville road culvert.....	36 00		
Culvert No. 35.....	160 00		
	<hr/>	\$244 10	
		<hr/>	\$244 10

Vertical and slope walls, repairs of:

Section 9, Erie:			
Between Winton road Bridge No. 61 and Lock No. 64.....	\$2,343 23		
At Culvert No. 35.....	163 00		
Near lift Bridge No. 61.....	358 50		
Between Exchange street bridge and Pine street	243 74		
At head gates of Genesee valley feeder.	89 13		
		\$3,197 60	
		<hr/>	3,197 60

Section 11, Erie:

Pile driver, repairs to.....	\$164 34		
	<hr/>	\$164 34	
		<hr/>	164 34

Building derricks:

Section 8, Erie.....	\$264 93		
	<hr/>	\$264 93	
Section 9, Erie.....	\$264 93		
	<hr/>	264 93	
Section 10, Erie.....	\$264 95		
	<hr/>	264 95	
Section 11, Erie.....	\$262 46		
	<hr/>	262 46	
		<hr/>	1,057 27

Section 8, Erie:

Break at Port Gibson, repairs to....	\$6,045 79		
	<hr/>	\$6,045 79	
		<hr/>	6,045 79

Section 8, Erie:

Break at power house, Lock No. 29, Palmyra, repairs to.....	\$2,090 42		
	<hr/>	\$2,090 42	
		<hr/>	2,090 42

70 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

Section 11, Erie:

Tonawanda dam, repairs to.....	\$38,083 13	
	<hr/>	\$38,083 13
		<hr/>
		\$38,083 13

Locks, repair of:

Section 8, Erie:

Lock No. 53.....	\$45 04	
Lock No. 54.....	429 62	
	<hr/>	\$474 66

Section 9, Erie:

Lock No. 62.....	\$146 69	
Lock No. 63.....	56 70	
Lock No. 64.....	224 20	
Lock No. 65.....	180 25	
	<hr/>	607 84

Section 10, Erie:

Sulphur Springs guard lock.....	\$851 04	
	<hr/>	851 04

Section 11, Erie:

Lock No. 72.....	\$805 27	
River lock, Tonawanda.....	555 21	
	<hr/>	1,360 48
		<hr/>
		3,294 02

Aqueducts and waste weirs, repair of:

Section 8, Erie:

Lyons aqueduct	\$532 12	
	<hr/>	\$532 12

Section 9, Erie:

Waste weir No. 7.....	\$40 25	
	<hr/>	40 25
		<hr/>
		572 37
		<hr/>
		\$54,749 04
		<hr/>
		<hr/>

EXPENDITURES FROM THE EXTRAORDINARY REPAIR FUND BY DIVISIONS

(Chapter 237, Laws of 1915)

Eastern division	\$12,302 74
Middle division	17,864 80
Western division	54,749 04
	<hr/>
	\$84,916 67
	<hr/>
	<hr/>

SUMMARY OF AVAILABLE FUNDS AND EXPENDITURES FOR THE YEAR 1916 FROM THE EXTRAORDINARY REPAIR FUNDS

FUNDS

(Chapter 237, Laws of 1915)

Unexpended balance, January 1, 1916.....	\$101,207 44
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EXPENDITURES BY SECTIONS AND DIVISIONS

Eastern Division

Division	\$876 81	
Section 2, Erie.....	248 50	
Section 4, Erie.....	778 00	
Section 1, Champlain.....	2,579 59	
Section 2, Champlain.....	5,675 71	
Section 3, Champlain.....	2,144 13	
	<hr/>	\$12,302 74

Middle Division

Division	\$2,077 49	
Section 5, Erie.....	3,729 87	
Section 6, Erie.....	6,168 23	
Section 7, Erie.....	221 87	
Oswego canal	534 48	
Cayuga and Seneca canal.....	1,419 03	
Black River canal.....	3,713 92	
	<hr/>	17,864 89

Western Division

Section 8, Erie.....	\$9,407 92	
Section 9, Erie.....	4,110 62	
Section 10, Erie.....	1,360 09	
Section 11, Erie.....	39,870 41	
	<hr/>	54,749 04
		<hr/>
		\$84,916 67

Available balance, January 1, 1917.....	\$16,290 77
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STATEMENT 6

Statement of payments made by the Superintendent of Public Works under Legislative Acts, for the purposes therein stated, from January 1, 1916, to January 1, 1917.

For expense of procuring official bonds. (Chapter 726, Laws of 1915.)		
Amount expended	\$767 20	
	<hr/>	\$767 20
For the removal of certain highway and farm bridges over abandoned sections of the canals of the State. (Chapters 702 and 646, Laws of 1915 and 1916.)		
By the division superintendents.....	\$28,036 11	
	<hr/>	28,036 11

72 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

For the construction and maintenance of buoys, light houses, beacons or other aids to navigation on those portions of the Barge Canal between the following points: Baldwinsville and Three River Point, Three River Point and Oswego, Waterford and Rexford Flats, Northumberland and Fort Edward and terminals at Plattsburg and Port Henry. (Chapter 708, Laws of 1915.)

By the division superintendents.....	\$31,390 95	
	<hr/>	\$31,390 95

Dredging and straightening the Canisteo river from Hornell to Addison. (Chapters 750 and 728, Laws of 1913 and 1915.)

Eastover Construction Co., Inc., contractor.....	\$23,337 00	
Advertising	89 00	
Printing	51 78	
	<hr/>	23,477 78

Dredging Chadakoin river known as Chautauqua Lake outlet. (Chapters 758 and 728, Laws of 1913 and 1915.)

George L. Maltby, contractor.....	\$3,699 00	
Advertising	107 00	
Printing	83 17	
	<hr/>	3,889 17

For the operation, maintenance and repair of the draw bridge known as Drake's draw bridge, spanning Wappinger creek in the village of New Hamburg, Dutchess county. (Chapter 725, Laws of 1915.)

Bridge tender	\$233 35	
Expenses	29 12	
	<hr/>	262 47

For making repairs to Drake's draw bridge spanning Wappinger creek in the village of New Hamburg, Dutchess county. (Chapter 646, Laws of 1916.)

By the division superintendent.....	\$69 00	
	<hr/>	69 00

Improvement of Dry river in the city of Watervliet. (Chapter 707, Laws of 1915.)

By the division superintendent.....	\$611 45	
	<hr/>	611 45

For the deepening of the channel of Ellicott creek from the Erie canal to the city line of the city of Tonawanda, and for the repair of the bridges crossing the same. (Chapters 624 and 728, Laws of 1913 and 1915.)

Frank L. Cohen, contractor.....	\$2,142 00	
By the superintendent.....	14 62	

Repairing and reconstructing the dikes and repairing the banks of the Chemung river in the city of Elmira. (Chapter 728, Laws of 1915.)

By the division superintendent.....	\$972 40	
		\$972 40

For the purchase or construction of plant, machinery and equipment for use on completed sections of the Barge Canal system of the State. (Chapters 144 and 646, Laws of 1914 and 1916.)

By the division superintendents.....	\$3,951 33	
		3,951 33

Improving the channel of Three Mile harbor in the town of East Hampton. (Chapters 247 and 646, Laws of 1914 and 1916.)

J. S. Packard Dredging Co., contractor.....	\$8,213 00	
Advertising	190 25	
Printing	17 27	
		8,420 52

For the straightening of the east branch of the Eighteen Mile creek in the city of Lockport. (Chapter 727, Laws of 1915.)

By the division superintendent.....	\$2,809 18	
		2,809 18

Straightening the channel of and otherwise improving Fulmer creek in the county of Herkimer. (Chapters 709 and 728, Laws of 1915.)

By the division superintendent.....	\$1,274 00	
		1,274 00

For the construction of gantry cranes or tracks above the lower gates of certain locks to be used in handling such lock gates. (Chapter 708, Laws of 1915.)

By the division superintendent.....	\$6,513 31	
		6,513 31

For the salaries and expenses of inspectors of steam vessels. (Chapter 725, Laws of 1915.)

Inspectors, salaries of.....	\$3,500 00	
Traveling expenses	365 43	
Printing, etc.	48 06	
		3,913 49

For lighting by electricity the light house at the entrance of the channel of Lake Keuka at Penn Yan. (Chapters 530 and 646, Laws of 1914 and 1916.)

Cost of electricity.....	\$76 74	
		76 74

Construction of a bridge over the Black river and
Moose river at Lyons Falls, Lewis county. (Chap-
ter 246, Laws of 1913 and chapters 699 and 728,
Laws of 1915.)

Walter S. Rae, contractor.....	\$43,515 00	
Advertising	85 62	
Printing	77 87	
By the division superintendent.....	17 05	
		<hr/> \$43,695 54

For the protection of navigation on completed sec-
tions of the Barge canal by providing for the con-
struction of additional or substitute gates for use
in cases of emergency in Barge Canal locks.
(Chapters 145 and 646, Laws of 1914 and 1916.)

By the division superintendents.....	\$269 83	
		<hr/> 269 83

For the compensation of the tender and for the
maintenance and operation of the draw bridge
over Minisceongo creek, Rockland county. (Chap-
ter 725, Laws of 1915.)

Bridge tender	\$350 00	
Repairs	510 00	
Expenses	2 67	
		<hr/> 862 67

For the construction of a bridge over a portion of
the Oswego river and the Barge canal at Minetto
in the county of Oswego to connect with a bridge
to be built by local authorities over a portion of
such river. (Chapter 716, Laws of 1915.)

Larkin & Sangster, contractor.....	\$5,355 00	
		<hr/> 5,355 00

Construction of a highway bridge over the canal-
ized Mohawk river at Movable Dam Five between
the towns of Glenville and Rotterdam. (Chapters
714 and 728, Laws of 1913 and 1915.)

Lupfer & Remick, contractor.....	\$9,072 43	
Recording appropriations of land.....	1 00	
		<hr/> 9,073 43

For the straightening, dredging and making of
other improvements to restrain and control the
waters of the Allegany river and Olean creek
within the corporate limits of the city of Olean.
(Chapter 717, Laws of 1915.)

J. M. Hamilton Contracting Co., Inc., contractor..	\$72,810 00	
Land appropriated	26,926 43	
Advertising	610 60	
Engineering	8,000 00	
By the superintendent.....	4,619 26	
		<hr/> 112,966 29

Investigating and reporting upon conditions relative to construction of highway bridge over the Mohawk river and Barge canal between the city of Schenectady and the village of Scotia. (Chapter 603, Laws of 1916.)

Paid Brown & Lowe Co.....	\$2,413 32	
	<hr/>	\$2,413 32

For the repair of the canal wall feeder on Main street in the city of Oneida. (Chapter 705, Laws of 1915.)

C. E. Wells, contractor.....	\$1,208 00	
Advertising	59 75	
Printing	29 69	
Engineering	381 01	
By the division superintendent.....	167 39	
	<hr/>	1,843 84

For the painting of bridges, lock gates and other structures on and connected with the new Barge canal. (Chapter 708, Laws of 1915.)

By the division superintendents.....	\$28,989 32	
	<hr/>	28,989 32

For removing dead and floating timber from the Saranac river between the dam across said river at the junction of Main street and Maple street in the village of Saranac Lake. (Chapter 531, Laws of 1914.)

By the superintendent.....	\$771 20	
	<hr/>	771 20

For the improvement of Sawyer's creek in the city of North Tonawanda and the town of Wheatfield, Niagara county. (Chapters 531 and 646, Laws of 1914 and 1916.)

H. S. Kerbaugh, Inc., contractor.....	\$7,765 22	
Advertising	117 50	
	<hr/>	7,882 72

For the removal of the tide gates now existing in Shinnecock and Peconic canal in the county of Suffolk, and for the construction in place thereof of a lock of sufficient dimensions to accommodate traffic and to otherwise improve said canal. (Chapters 791, 530 and 728, Laws of 1913, 1914 and 1915.)

By the superintendent.....	\$250 00	
	<hr/>	250 00

Construction of a foot bridge between the north and south walls of Lock No. 3 on the Cayuga and Seneca canal at Seneca Falls. (Chapter 700, Laws of 1915.)

Lupfer & Remick, contractor.....	\$1,197 00	
Advertising	100 25	
Printing	39 12	
	<hr/>	1,336 37

76 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

For necessary repairs and maintenance of structures which have been constructed by the Superintendent of Public Works on and connected with the waters of the State and which are not included as part of the canal system. (Chapters 701 and 728, Laws of 1913 and 1915.)

By the division superintendent.....	\$242 10	
	<hr/>	\$242 10

Construction of a lift or hoist bridge over the Erie canal at West Genesee street, Syracuse. (Chapters 715 and 728, Laws of 1913 and 1915.)

Lupfer & Remick, contractor.....	\$14,031 00	
Engineering	1,255 08	
	<hr/>	15,286 08

To provide towing facilities on completed sections and portions of the Barge Canal system. (Chapters 283 and 255, Laws of 1915 and 1916.)

Advertising	\$156 25	
By the division superintendents.....	42,141 05	
	<hr/>	42,297 30

For lowering the canal bridge over the Cayuga and Seneca canal in the village of Waterloo or substituting a culvert therefor. (Chapter 701, Laws of 1915.)

By the division superintendent.....	\$1,712 89	
	<hr/>	1,712 89

For certain improvements in the channel and banks of the Mohawk river and West Canada creek, made necessary by the building of the Barge canal. (Chapter 728, Laws of 1915.)

State Highway Construction Co., contractor.....	\$4,230 00	
Advertising	85 63	
Printing	11 79	
Recording appropriations of land.....	3 00	
	<hr/>	4,330 42

Construction of a new steel plate girder bridge over the Erie canal at Clinton street in the village of Whitesboro. (Chapter 704, Laws of 1915.)

M. Fitzgerald, contractor.....	\$6,921 00	
Advertising	146 00	
Printing	66 83	
	<hr/>	7,133 83

Construction of a new bridge over the Erie canal, with the necessary approaches thereto, on route number twenty-eight of the State highways in the village of Yorkville. (Chapter 745, Laws of 1913, and chapters 584 and 728, Laws of 1915.)

Scott Brothers, contractor.....	\$33,514 28	
By the superintendent.....	1,930 41	
Recording appropriations of land.....	4 50	

35,449 19

For payment of services of C. B. Hunt as patrol
and for lighting and caring for danger signals
on river road north of the dam at Croker's Reefs,
Saratoga county, which road was under repair by
State. (Chapter 646, Laws of 1916.)

By the superintendent.....	\$186 00	
		\$186 00
Construction of store houses. (Chapter 646, Laws of 1916.)		
By the superintendent.....	\$4,890 00	
		4,890 00
Ditching in canal prism. (Chapter 646, Laws of 1916.)		
By the division superintendents.....	\$1,064 68	
		1,064 68
Ditching outside canal prism. (Chapter 646, Laws of 1916.)		
By the division superintendents.....	\$2,740 85	
		2,740 85
		\$449,634 59

STATEMENT NO. 7

*Statement of payments made by the Superintendent of Public Works from
January 1, 1916, to January 1, 1917, under the "Barge Canal Act"*

(Chapter 147, Laws of 1903, and Amendatory Acts thereto)

Contract No. 1:		
Recording appropriations of land.....	\$1 10	
		\$1 10
Contract No. 1-A:		
Holler & Shepard, contractor.....	\$27,396 00	
Construction of road.....	2,448 00	
		29,844 00
Contract No. 2-G:		
Advertising	\$132 43	
Printing	106 39	
		238 82
Contract No. 10-C:		
Fulton Engineering Co., Inc., contractor.....	\$5,748 93	
		5,748 93
Contract No. 12:		
James Stewart & Co., Inc., contractor.....	\$1,917 22	
Recording appropriations of land.....	2 01	
		1,919 23
Contract No. 14:		
Recording appropriations of land.....	\$5 00	
		5 00
Contract No. 14-B:		
Brown & Lowe Co., contractor.....	\$11,381 44	
		11,381 44

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Contract No. 15:		
Recording appropriations of land.....	\$3 06	
		\$3 06
Contract No. 18-A:		
New York State Dredging Corporation, contractor	\$426,111 00	
Extra or unspecified work (see Canal Board proceedings of October 11, October 26, and November 22, 1916).....	7,635 94	
		433,746 94
Contract No. 19-A:		
Printing	\$107 72	
		107 72
Contract No. 20-B:		
S. Pearson & Son, Inc., contractor.....	\$27,078 07	
Extra or unspecified work (see Canal Board proceedings of December 29, 1915, and January 21, 1916)	1,969 49	
		29,047 56
Contract No. 20-D:		
American Pipe & Construction Co., contractor...	\$540,371 00	
Extra or unspecified work (see Canal Board proceedings of December 29, 1915, and May 18, 1916	4,326 83	
Recording appropriations of land.....	14 65	
		544,712 48
Contract No. 21-A:		
Walsh Construction Co., contractor.....	\$100,926 00	
Advertising	203 30	
Printing	106 14	
		101,235 44
Contract No. 22:		
M. Fitzgerald, contractor.....	\$12,002 40	
Extra or unspecified work (see Canal Board proceedings of April 24, 1916).....	3,379 36	
		15,381 76
Contract No. 23-A:		
H. S. Kerbaugh, Inc., contractor.....	\$73,512 00	
Advertising	230 67	
Printing	127 83	
		73,879 50
Contract No. 27-B:		
John J. Farrell, Jr., contractor.....	\$5,004 00	
Advertising	239 68	
Printing	57 70	
		5,301 38
Contract No. 29:		
Recording appropriations of land.....	\$0 75	

REPORT OF SUPERINTENDENT OF PUBLIC WORKS 79

Contract No. 29-A:		
Eastover Construction Co., contractor.....	\$104,967 00	
Advertising	349 94	
Printing	119 20	
		\$105,436 14
Contract No. 30:		
Acme Engineering & Contracting Co., contractor.	\$380,033 00	
Recording appropriation of land.....	2 00	
		380,035 00
Contract No. 30-A:		
E. Brown Baker, contractor.....	\$2,871 00	
		2,871 00
Contract No. 37:		
Henry P. Burgard, contractor.....	\$10,881 52	
		10,881 52
Contract No. 39:		
James Stewart & Co., Inc., contractor.....	\$90,273 00	
Recording appropriations of land.....	45 00	
		90,318 00
Contract No. 42-A:		
Grant Smith & Co. & Locher, contractor.....	\$199,149 00	
		199,149 00
Contract No. 43:		
The M. A. Talbott Co., contractor.....	\$7,677 00	
Extra or unspecified work (see Canal Board pro- ceedings of January 15, 1916).....	1,476 68	
Recording appropriations of land.....	3 75	
		9,157 43
Contract No. 44:		
Scott Brothers, contractor.....	\$9,309 16	
Extra or unspecified work (see Canal Board pro- ceedings of February 2, 1916).....	440 26	
		9,749 42
Contract No. 44-A:		
Advertising	\$132 43	
Printing	63 88	
		196 31
Contract No. 46-A:		
James Stewart & Co., Inc., contractor.....	\$108,441 00	
		108,441 00
Contract No. 46-B:		
Scott Brothers, contractor.....	\$91,902 00	
Advertising	170 58	
		92,072 58
Contract No. 47-A:		
The Central Dredging Co., contractor.....	\$137,826 00	
Advertising	279 38	
Printing	132 25	
Recording appropriations of land.....	1 50	

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Contract No. 48:		
Recording appropriations of land.....	\$1 50	
		\$1 50
Contract No. 49-A:		
Advertising	\$56 25	
		56 25
Contract No. 50:		
Buffalo Dredging Co., contractor.....	\$6,804 85	
Construction of highway.....	6,047 38	
		12,852 23
Contract No. 51:		
The Alto Construction Co., contractor.....	\$31,275 00	
		31,275 00
Contract No. 55-B:		
Printing	\$83 65	
		83 65
Contract No. 59:		
Advertising	\$124 09	
Printing	170 54	
		294 63
Contract No. 59-A:		
P. H. Murray, contractor.....	\$30,564 00	
Advertising	124 47	
Printing	90 20	
		30,778 67
Contract No. 60:		
Recording appropriations of land.....	\$4 00	
		4 00
Contract No. 63:		
Recording appropriations of land.....	\$16 00	
		16 00
Contract No. 63-A:		
State Highway Construction Co., contractor.....	\$161,739 00	
Advertising	170 58	
Printing	98 54	
		162,008 12
Contract No. 66:		
Recording appropriations of land.....	\$1 00	
		1 00
Contract No. 67:		
Recording appropriations of land.....	\$3 00	
		3 00
Contract No. 70-A:		
The Central Dredging Co., contractor.....	\$150,678 00	
		150,678 00
Contract No. 71-A:		
P. McGovern & Co., contractor.....	\$167,780 47	
Extra or unspecified work (see Canal Board proceedings of March 22, 1916)	289 90	
Construction of road adjacent to.....	2,713 65	
		170,784 02

REPORT OF SUPERINTENDENT OF PUBLIC WORKS 81

Contract No. 72-A:		
James Stewart & Co., Inc., contractor.....	\$47,245 31	
	<hr/>	\$47,245 31
Contract No. 72-B:		
James Stewart & Co., Inc., contractor.....	\$76,590 00	
Advertising	124 47	
Printing	62 84	
	<hr/>	76,777 31
Contract No. 73-A:		
Great Lakes Dredge & Dock Co., contractor....	\$215,010 00	
Extra or unspecified work (see Canal Board pro- ceedings of July 27, 1916).....	344 15	
Advertising	404 10	
Recording appropriations of land.....	7 50	
	<hr/>	215,765 75
Contract No. 74:		
Dunbar & Sullivan Dredging Co., contractor....	\$124,479 00	
	<hr/>	124,479 00
Contract No. 77:		
Recording appropriations of land.....	75	
	<hr/>	75
Contract No. 81:		
Advertising	\$124 09	
Printing	100 92	
	<hr/>	225 01
Contract No. 91-A:		
Advertising	\$124 09	
Printing	62 91	
	<hr/>	187 00
Contract No. 93:		
MacArthur Bros. Co. and Lord Electric Co., contractor	\$4,865 84	
	<hr/>	4,865 84
Contract No. 99:		
Printing	\$137 29	
	<hr/>	137 29
Contract No. 103:		
Barrally & Ingersoll, contractor.....	\$1,269 00	
	<hr/>	1,269 00
Contract No. 105:		
Recording appropriations of land.....	\$6 00	
	<hr/>	6 00
Contract No. 106:		
Recording appropriations of land.....	\$6 00	
	<hr/>	6 00
Contract No. 109:		
Larkin & Sangster, contractor.....	\$140 00	
	<hr/>	140 00
Contract No. 115:		
Penn Bridge Co., contractor.....	\$11,650 97	
	<hr/>	11,650 97

82 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

Contract No. 116:		
Walsh Construction Co., contractor.....	\$8,991 68	
		\$8,991 68
Contract No. 118:		
Lathrop, Shea & Henwood Co., contractor.....	\$51,345 00	
Extra or unspecified work (see Canal Board proceedings of March 22, 1916).....	2,000 00	
		53,345 00
Contract No. 120:		
Whitehead & Kales Iron Works, contractor....	\$129,222 00	
Extra or unspecified work (see Canal Board proceedings of November 2, 1916).....	215 00	
		129,437 00
Contract No. 122:		
Thomas Leonard, contractor.....	\$5,481 00	
Advertising	170 59	
Printing	132 25	
		5,783 84
Contract No. 128:		
Holler & Shepard, contractor.....	\$23,103 00	
Advertising	255 08	
Printing	107 88	
		23,465 96
Contract No. 129:		
The Foundation Co., contractor.....	\$30,834 00	
Advertising	255 07	
Printing	131 18	
Recording appropriations of land.....	2 50	
		31,222 75
Contract No. 130:		
Great Lakes Dredge & Dock Co., contractor....	\$5,506 37	
Advertising	146 64	
		5,653 01
Contract No. 131:		
Spaulding Construction Co., contractor.....	\$738 00	
Advertising	146 64	
Printing	118 76	
		1,003 40
Contract No. 132:		
Lupfer & Remick, contractor.....	\$405 00	
Advertising	132 43	
Printing	116 81	
		654 24
Contract No. 133:		
Advertising	\$132 43	
Printing	96 84	
		229 27
Contract No. 135:		
Printing	\$63 88	
		63 88

Contract No. 137:		
J. A. La Porte, contractor.....	\$3,474 00	
Advertising	124 09	
Printing	70 70	
		\$3,668 79
Contract No. 139:		
Printing	\$63 88	
		63 88
Contract No. 140:		
Holler & Shepard, contractor.....	\$1,575 00	
Printing	60 47	
		1,635 47
Construction of two connecting highways, Muck road to James street and Whites- boro street to Mill street in the city of Rome:		
Harry A. Schaupp, contractor.....	\$8,892 00	
Advertising	403 05	
Printing	65 24	
		9,360 29
Making repairs to dam No. 10 at Cana- joharie:		
H. S. Kerbaugh, Inc., contractor.....	\$73,600 62	
		73,600 62
For the improvement of the highway between the Mohawk river and the old Erie canal at Forts Ferry, town of Clifton Park, Saratoga county:		
John Shaw & I. L. Taylor, contractor.....	\$2,223 00	
Advertising	105 00	
Printing	28 66	
		2,356 66
Constructing a highway north of the West Shore railroad at Port Gibson, town of Palmyra, Wayne county:		
Wm. R. Kimmey, contractor.....	\$1,510 82	
Advertising	21 00	
		1,531 82
Constructing culvert, widening and raising embankment and rebuilding portions of timber flume at Irondequoit creek, Bush- nell's Basin:		
Myers & McWilliams, contractor.....	\$372,549 21	
		372,549 21
Construction of certain highways adjacent to Hinckley reservoir:		
J. L. Richmond, contractor.....	\$5,205 75	
		5,205 75

General Expenses

Special agent, salary and expenses.....	\$2,770 08
Clerk hire	5,387 42
For maintaining navigation through wooden flume over culvert No. 30 on site of contract No. 63.	8,774 82
Paid watchmen on temporary canal at Mindenville	142 50
Pulling out piles and removing piers at Three River Point	156 25
Constructing gate hoists at Delta dam.....	2,766 29
Removing stop gate at East Holley.....	937 38
Removing stop gate at West Holley.....	299 10
Removing stop gate at Knowlesville.....	1,212 10
Repairs to culvert No. 103.....	3,009 36
Repairs to culvert No. 113.....	3,248 17
Repairs to culvert No. 124.....	5,989 08
Repairs at Clark's quarry onsite of Contract No. 62	1,565 71
Replanking bridge known as West Schuyler bridge west of Frankfort.....	482 32
Constructing tumble gate at Waterford.....	5,159 71
Excavating below lock No. 2 on site of contract No. 69	634 10
Removing grillage under Holley bridge.....	420 50
Dredging on site of Contract No. 73-A.....	13,603 36
Ditching between culverts Nos. 48 and 49 on site of contract No. 60.....	1,966 74
Rebuilding spillway near Wayneport.....	1,102 50
Installing roller bearings on guide stems at Hinck- ley dam	387 73
Dredging on east end of Oneida lake on site of contract No. 4.....	14,777 02
Reinterring skeletons exhumed at Forts Ferry...	65 00
Repairing abutment of Bush's bridge No. 175....	1,559 96
Ditching at culvert under highway near Macedon lock	194 86
Constructing foot bridge over spillway east of Palmyra	197 96
Building sidewalk at Brown street bridge, Albion	605 15
Improving channel of Champlain canal south of lock No. 5.....	2,054 74
Printing maps	410 00

 \$79,879 91
Bureau of Appraisals

Special examiner and appraiser.....	\$291 62
Stenographer	875 00
Postage stamps	30 00
Printing and stationery.....	42 07
Repairing typewriter	8 00

 1,246 69

 \$4,251,642 06

STATEMENT NO. 8

Statement of payments made by the Superintendent of Public Works from January 1, 1916, to January 1, 1917, for the improvement of the Cayuga and Seneca canal

(Chapter 391, Laws of 1909)

Contract "A-1":		
The Sherman-Stalter Company, contractor.....	\$11,016 00	
Advertising	124 47	
Printing	65 82	
		<hr/>
		\$11,206 29
Contract "B":		
The Sherman-Stalter Company, contractor.....	\$15,642 00	
Extra or unspecified work (see Canal Board proceedings of November 22, 1916)	200 00	
		<hr/>
		15,842 00
Contract "C":		
Larkin & Sangster, contractor.....	\$18,880 23	
Extra or unspecified work (see Canal Board proceedings of December 29, 1915, February 2, March 2, April 6, April 19, May 18, May 31, June 21, June 29, July 13 and September 21, 1916)	51,724 74	
		<hr/>
		70,604 97
Contract "D":		
The Sherman-Stalter Company, contractor.....	\$132,282 00	
Extra or unspecified work (see Canal Board proceedings of May 31, 1916)	4,200 00	
		<hr/>
		136,482 00
Contract "E":		
Cleveland & Sons Co., contractor.....	\$5,972 00	
Extra or unspecified work (see Canal Board proceedings of April 19, 1916)	107 94	
		<hr/>
		6,079 94
Contract "F":		
Stanley Construction Co., contractor.....	\$51,687 00	
		<hr/>
		51,687 00
Contract "G":		
Lupfer & Remick, contractor.....	\$32,895 00	
Extra or unspecified work (see Canal Board proceedings of May 18, 1916)	292 11	
		<hr/>
		33,187 11
Contract "J":		
Chesley, Earl & Heimbach, Inc., contractor.....	\$5,486 44	
		<hr/>
		5,486 44
Contract "K":		
Phoenix Bridge Co., contractor.....	\$6,129 23	
		<hr/>
		6,129 23

Contract "L":

Scott Brothers, contractor.....	\$42,708 00	
Extra or unspecified work (see Canal Board proceedings of October 11, 1916)	2,004 69	
	<hr/>	\$44,712 69

Contract "M":

Lupfer & Remick, contractor.....	\$33,345 00	
	<hr/>	33,345 00

General Expenses

Repair of Cayuga lake dam.....	\$122 43	
Removing debris from canal basin at Seneca Falls	137 75	
Traveling expenses	177 50	
Printing	109 75	
	<hr/>	547 43
		<hr/>
		\$415,310 10
		<hr/>

STATEMENT No. 9

Statement of payments made by the Superintendent of Public Works from January 1, 1916, to January 1, 1917, under the "Barge Canal Terminal Act"

(Chapter 746, Laws of 1911)

Contract No. 2-P:

Patrick Mulderry, contractor.....	\$27,387 00	
Advertising	392 73	
	<hr/>	\$27,779 73

Contract No. 7-A:

New York State Dredging Corporation, contractor, extra or unspecified work (see Canal Board proceedings of March 8, 1916)	\$543 15	
	<hr/>	543 15

Contract No. 13:

By the division superintendent.....	\$74,389 74	
	<hr/>	74,389 74

Contract No. 14:

Walsh Construction Co., contractor.....	\$13,530 11	
By division superintendent.....	1,207 47	
	<hr/>	14,737 58

Contract No. 15:

Eastover Construction Co., Inc., contractor.....	\$68,311 80	
Extra or unspecified work (see Canal Board proceedings of May 10, 1916)	196 67	
	<hr/>	68,508 47

Contract No. 16:

The M. A. Talbott Co., contractor.....	\$7,992 00	
	<hr/>	7,992 00

Contract No. 18:		
George W. Rogers & Co., Inc., contractor.....	\$30,087 00	
Extra or unspecified work (see Canal Board proceedings of December 29, 1915, February 23 and September 21, 1916)	12,425 27	
		\$42,512 27
Contract No. 19:		
Printing	\$38 14	
		38 14
Contract No. 20:		
Walsh Construction Co., contractor.....	\$280,926 00	
Extra or unspecified work (see Canal Board proceedings of February 4 and November 2, 1916)	1,174 50	
Advertising	234 60	
Printing	153 45	
Recording appropriations of land.....	6 00	
		282,494 55
Contract No. 21:		
H. S. Kerbaugh, Inc., contractor.....	\$117,792 00	
		117,792 00
Contract No. 25:		
New York State Dredging Corporation, contractor	\$11,208 68	
Recording appropriations of land.....	2 00	
		11,210 68
Contract No. 26:		
Printing	\$92 74	
		92 74
Contract No. 28:		
Barrally & Ingersoll, contractor.....	\$16,749 00	
Recording appropriations of land.....	1 00	
		16,750 00
Contract No. 29:		
Barrally & Ingersoll, contractor.....	\$855 00	
		855 00
Contract No. 30:		
Henry P. Burgard, contractor.....	\$53,496 00	
Advertising	146 63	
Printing	116 09	
		53,758 72
Contract No. 31:		
Lupfer & Remick, contractor.....	\$3,411 00	
Printing	99 32	
		3,510 32
Contract No. 33:		
H. S. Kerbaugh, Inc., contractor.....	\$114,804 00	
		114,804 00

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Contract No. 37:		
Holler & Shepard, contractor.....	\$4,320 00	
Printing	106 24	
		<hr/> \$4,426 24
Contract No. 40:		
J. E. Bishop, contractor.....	\$1,071 00	
Scott Brothers, contractor.....	10,584 00	
Printing	112 99	
		<hr/> 11,767 99
Contract No. 46:		
Scott Brothers, contractor.....	\$6,867 00	
Printing	92 74	
		<hr/> 6,959 74
Contract No. 47:		
I. M. Ludington's Sons, Inc., contractor.....	\$35,154 90	
Extra or unspecified work (see Canal Board proceedings of October 26, 1916).....	256 00	
Printing	95 01	
		<hr/> 35,505 91
Contract No. 48:		
Advertising	\$132 43	
Printing	99 32	
		<hr/> 231 75
Contract No. 49:		
The F. J. Mumm Contracting Co., Inc., contractor.....	\$232 30	
Extra or unspecified work (see Canal Board proceedings of February 4, 1916).....	150 00	
Printing	64 85	
		<hr/> 447 15
Contract No. 50:		
Rhodey & Clauson, contractor.....	\$807 75	
Advertising	318 10	
		<hr/> 1,125 85
Contract No. 51:		
Fred H. Rhodey, contractor.....	\$3,843 00	
Extra or unspecified work (see Canal Board proceedings of October 18, 1916).....	500 18	
Advertising	203 30	
Printing	93 64	
		<hr/> 4,640 12
Contract No. 52:		
Kaufman & Garcey, contractor.....	\$711 00	
Advertising	443 45	
Printing	117 16	
		<hr/> 1,271 61
Contract No. 53:		
Printing	\$16 25	
		<hr/> 16 25

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Contract No. 201:

Advertising	\$124 09	
Printing	82 80	
		\$206 89

General Expenses

Confidential appraiser and investigator, salary and expenses	\$3,126 77	
Watchman, "Manning property" Troy.....	722 00	
Traveling expenses	91 51	
		3,940 28
		\$908,308 87

STATEMENT NO. 10:

*Statement of moneys paid into the State Treasury by the Superintendent of
Public Works, from January 1, 1916, to January 1, 1917.*

Ice privileges, see Appendix "A".....	\$3,937 00	
Rental of lands for farming purposes see Appendix "B".....	3,849 75	
Rentals for other than farming purposes, see Appendix "C"..	11,430 06	
Sales of sand and gravel, see Appendix "D".....	1,310 85	
Sales of materials other than sand and gravel, see Appendix "E"	2,989 57	
Sales of buildings, see Appendix "F".....	365 00	
Miscellaneous receipts, see Appendix "G".....	9,007 48	
Fees for filing liens, mortgages, etc., see Appendix "H".....	29 75	
Fees for inspection of steam vessels, issuing licenses and fines, see Appendix "I".....	4,028 50	
		\$36,947 96

APPENDIX "A"

Ice Privileges

Received for privileges granted for cutting ice
from David H. Lewis, Assistant Superintendent.

Wm. J. Currie.....	\$18 75
McDermott Dairy Co.....	25 00
William Dotter	100 00
Daniel Norton Ice Co.....	395 00
Leon Saltzman	18 75
William Shover	12 50
S. Dotter Estate Ice Co.....	172 50
Mohawk River Ice Co.....	25 00
A. J. Walsh.....	50 00
R. O'Brien	12 50
H. C. McDougall.....	3 12
B. Baker Beef Co.....	25 00

A. Lindeman	\$25 00
L. D. Phillips.....	3 00
Niskayuna Ice Co.....	75 00
E. H. Lowell.....	12 50
Miller Brothers	31 25
Daniel McCarthy	87 50
H. W. Harrington.....	12 50
George Card	25 00
Elmer Higgins	18 75
Howard E. Galusha.....	6 25
M. J. Sullivan.....	12 50
Fred Pinnhen	5 00
S. H. Knapp.....	3 00
A. Campbell Milk Co.....	25 00
Martin Vrooman	5 00
Bierbauer Brewing Co.....	17 50
Manning Kested	6 25
Levi Dairy Co.....	8 00
Harry H. Johnson.....	2 50
E. B. Oathout.....	31 25
T. J. Mullen.....	2 50
J. Countryman	8 33
A. E. Miller.....	31 25
O'Brien Brothers	25 00
Charles Humphrey	2 00
John Rogers	12 50
Harold Chamberlain	12 50
C. Burton Rice.....	250 00
Mohawk River Ice Co.....	125 00
A. D. Yarter.....	18 75
A. Rioux	125 00
E. D. Quackenbush.....	12 50
W. L. R. Durkee.....	50 00
Cohosac Ice Co.....	125 00
B. Cooper Ice & Coal Co.....	200 00
Foster Scott Ice Co.....	723 33
Foster Scott Ice Co.....	142 86
Thos. S. Whalen.....	12 50
Alfred Meron	12 50

\$3,162 39
From D. S. Burleigh, Assistant Superintendent:

Ebert Cronk	\$9 38
Boonville Milk & Cream Co.....	6 25
Fred Laquay	10 00
Merlin Barnes	5 00
E. C. Davis.....	3 13
Fred Leland	3 13
William Ano	2 07
Fred Scouten	6 25
D. P. Maynard.....	6 25

E. E. Wadell.....	\$25 00	
David Copeland	25 00	
M. Copeland	25 00	
Frank Wiley	6 25	
T. Jarvis	12 50	
Abram C. Ward.....	5 82	
J. H. Lewis.....	3 08	
F. L. Cook	5 00	
C. H. Olmstead.....	12 50	
Shefford Cheese Co.....	25 00	
Robert J. Burton.....	3 00	
Standard Dairy Co.....	25 00	
Onondaga County Penitentiary.....	25 00	
Levi Dairy Co.....	6 25	
Mrs. Hunter	6 25	
John D. Tracy.....	6 50	
Clover Farms, Inc.....	12 50	
		\$281 11
From Henry A. Kunze, Assistant Superintendent:		
Joseph F. Reeners.....	\$25 00	
Charles J. Servoss.....	6 25	
Ralph Mann	12 50	
Townsend & Smith.....	6 25	
Nick Lauster	5 00	
D. E. Clare.....	100 00	
George P. Millard	6 25	
Wm. Filkins	6 25	
F. G. Curvin.....	15 00	
		182 50
New York, Ontario & Western Railway Co.:		
For privilege granted for cutting ice from Leland's pond at		
Fargo		311 00
		<u>\$3,937 00</u>

APPENDIX "B"

Received for rental of lands for farming purposes:

William F. Wilson, for use of land during season of 1916, embraced in Parcel 2175 of Contract No. 71-A, as per permit, dated December 21, 1915.....	\$20 00
Melissa Cronkhite, for use of land during season of 1916, embraced in Parcel 2385 of Contract No. 14, as per permit, dated December 31, 1915.....	20 00
John G. Sherman, for use of land during season of 1916, embraced in Parcel 56 of Contract No. 1, as per permit, dated January 4, 1916.....	25 00
Lucian Brenon, for use of land during season of 1916, embraced in Parcel 3915 of Contract No. 43, as permit, dated January 5, 1916.....	10 00

Martin Belanski, for use of land for one year in town of Little Falls, as per permit, dated December 22, 1915.....	\$5 00
E. C. Rogers, for use of land during season of 1916, embraced in Parcels 474 and 902 of Contract No. 25, as per permit, dated January 11, 1916.....	10 50
J. S. Countryman, for use of land during season of 1916, embraced in Parcels 2711 and 3582 of Contract No. 20-C, as per permit, dated January 21, 1916.....	20 00
Charles H. Schlottzauer, for use of land during season of 1916 embraced in Parcel 3099 of Contract No. 20-C, as per permit, dated January 20, 1916.....	15 00
Charles E. Holzhauer, for use of land during season of 1916, embraced in Parcels 2633 and 3660 of Contract No. 20-C, as per permit, dated January 20, 1916.....	25 00
V. R. Fuller, for use of land during season of 1916, embraced in Parcel 4569 of Contract No. 30, as per permit, dated January 26, 1916.....	60 00
Mrs. Cora E. Moon, for use of land during season of 1916, embraced in Parcel 4427 of Contract No. 71-A, as per permit, dated February 1, 1916.....	10 00
Frank A. Wilcox, for use of land during season of 1916, embraced in Parcel 4509 of Contract No. 20-D, as per permit, dated January 28, 1916.....	65 00
Fred Linendall, for use of land during season of 1916, embraced in Parcel 152 of Contract No. 1, as per permit, dated January 29, 1916.....	25 00
Mrs. Alice Flanigan, for use of land during season of 1916, embraced in Parcels 472 and 903 of Contract No. 25, as per permit, dated February 1, 1916.....	18 00
Elmer E. Walker, for use of land during season of 1916, embraced in Parcels 1080, 4051 and 4052 of Contract No. 68, as per permit, dated February 1, 1916.....	30 00
M. P. McKittrick, for use of land during season of 1916, embraced in Parcels 484 and 485 of Contract No. 27, as per permit, dated February 16, 1916.....	30 00
John Davison, for use of land during season of 1916, embraced in Parcel 485 of Contract No. 27, as per permit, dated February 16, 1916.....	20 00
Newell Morse, for use of land during season of 1916, embraced in Parcels 343 and 344 of Contract No. 15, as per permit, dated February 21, 1916.....	30 00
Dinkleman Brothers, for use of land during season of 1916, embraced in Parcel 666 of Contract No. 14, as per permit, dated March 1, 1916.....	15 00
Dunlap Rees, for use of land during season of 1915, for haying purposes embraced in Parcel 3220 of Contract No. 20-C....	8 25
E. E. Fisk, for use of land during season of 1916, embraced in Parcel 655 of Contract No. 14 and Parcel 4594 of Contract No. 20-B, as per permit, dated March 3, 1916.....	25 00

Martin Potter, for use of land during season of 1916, embraced in Parcel 480 of Contract No. 25, as per permit, dated March 3, 1916.....	\$15 00
Patrick B. Daley, for use of land during season of 1916, embraced in Parcels 456 and 460 of Contract No. 25, as per permit, dated March 4, 1916.....	25 00
Charles Whitmyer, for use of land during season of 1916, embraced in Parcel 668 of Contract No. 14, as per permit, dated March 3, 1916.....	25 00
C. H. Young, for use of land and building during season of 1916, embraced in Parcel 4436 of Contract No. 37, as per permit, dated February 11, 1915.....	25 00
J. C. Carl, for use of land during season of 1916, embraced in Parcel 504 of Contract No. 27-A, as per permit, dated March 16, 1916	5 00
Theodore C. Zarnow, for use of land during season of 1916, embraced in Parcel 1759 of Contract No. 23, as per permit, dated February 21, 1916.....	25 00
For season of 1915.....	25 00
Barnard Hart, for use of land during season of 1916, embraced in Parcel 489 of Contract No. 27, as per permit, dated March 28, 1916	12 00
Fred Overacker, for use of land during season of 1916, embraced in Parcel 4422 of Contract No. 71-A, as per permit, dated March 30, 1916.....	35 00
Julia D. Bullard, for use of land during season of 1916, embraced in Parcels 4420 and 4421 of Contract No. 71-A, as per permit, dated April 10, 1916.....	5 00
David H. Evans, for use of land during season of 1916, embraced in Parcels 1217, 1383 and 1384 of Contract No. 46, as per permit, dated April 13, 1916.....	75 00
Mrs. Mary J. Vayette, for use of land during season of 1916, embraced in Parcel 4305-A of Contract No. 15, as per permit, dated April 13, 1916.....	20 00
Charles Krick, for use of land during season of 1916, embraced in Parcel 3429 of Contract No. 30, as per permit, dated April 13, 1916.....	5 00
Thomas Marrow, for use of land during season of 1916, embraced in Parcels 4431, 4428 and 4425 of Contract No. 71-A, as per permit, dated April 14, 1916.....	30 00
George Lasher, for use of land during season of 1916, embraced in Parcels 2355 and 2366 of Contract No. 14, as per permit, dated April 21, 1916.....	50 00
Robert Bowe, for use of land during season of 1916, embraced in Parcels 503 and 502 of Contract No. 27, as per permit, dated April 21, 1916.....	25 00
Gustave Markendorf, for use of land during season of 1916, embraced in Parcels 3032, 3076, 3078 and 3479 of Contract No. 77, as per permit, dated April 21, 1916.....	20 00

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Lewis A. Auton, for use of land during season of 1916, embraced in Parcel 308 of Contract No. 6, as per permit, dated April 21, 1916.....	\$3 00
Smith Guyer, for use of land during season of 1916, embraced in Parcel 2213 of Contract No. 14, as per permit, dated April 22, 1916.....	35 00
George Lavigne, for use of land during season of 1916, embraced in Parcels 2269 and 2362 of Contract No. 14, as per permit, dated April 24, 1916.....	75 00
Mrs. Geneva Chaffee, for use of land during season of 1916, embraced in Parcels 112, 116, 116½ and 117 of Contract No. 3, as per permit, dated April 28, 1916.....	10 00
George Van Vleck, for use of land during season of 1916, embraced in Parcels 1926, 1916, 1918, 1158, 1913, 1003, 1005, 1115, 1133-A, 994, 1007, 1008, 1113 and 1127 of Contract No. 55, as per permit, dated April 28, 1916.....	801 00
R. W. Midlam, for use of land during season of 1916, embraced in Parcel 1930 of Contract No. 55, as per permit, dated April 28, 1916	20 00
W. F. Pillmore, for use of land during season of 1916, embraced in Parcel 122 of Contract No. 55, as per permit, dated April 28, 1916	200 00
J. O Warcup, for use of land during season of 1916, embraced in Parcel 1932 of Contract No. 55, as per permit, dated April 28, 1916.....	42 00
Wm. H. Warcup, for use of land during season of 1916, embraced in Parcel 1920 of Contract No. 55, as per permit, dated April 28, 1916.....	51 00
Lambert R. Hall, for use of land during season of 1916, embraced in Parcels 1120, 1877 and 188 of Contract No. 55, as per permit, dated April 28, 1916.....	26 00
George B. Olney, for use of land during season of 1916, embraced in Parcel 123 of Contract No. 55, as per permit, dated April 28, 1916.....	50 00
Wm. H. Smith, for use of land during season of 1916, embraced in Parcel 2271 of Contract No. 14, as per permit, dated April 28, 1916.....	60 00
James Munckton, for use of land during season of 1916, embraced in Parcels 2181 and 2185 of Contract No. 14, as per permit, dated May 1, 1916.....	25 00
Charles Hendershot, for use of land during season of 1916, embraced in Parcel 3330 of Contract No. 20-D, as per permit, dated May 1, 1916.....	2 00
B. D. Juckett, for use of land during season of 1916, embraced in Parcel 696 of Contract No. 15, as per permit, dated May 2, 1916.....	15 00
M. B. Parmalee, for use of land during season of 1916, embraced in Parcel 1933 of Contract No. 55, as per permit, dated May 2, 1916.....	55 00

Roland Hall, for use of land during season of 1916, embraced in Parcel 2257 of Contract No. 14, as per permit, dated May 4, 1916	\$50 00
C. J. Nixon, for use of land during season of 1916, embraced in Parcel 282 of Contract No. 8, as per permit, dated May 5, 1916.....	12 50
W. P. Blaisdell, for use of land during season of 1916, embraced in Parcel 432 of Contract No. 25, as per permit, dated May 10, 1916.....	10 00
Mrs. Ella Needham, for use of land during season of 1916, embraced in Parcel 423 of Contract No. 25, as per permit, dated May 12, 1916.....	10 00
Henry Lawrence, for use of land during season of 1916, embraced in Parcel 483 of Contract No. 27, as per permit, dated May 16, 1916.....	50 00
H. T. Dodge, for use of land during season of 1916, embraced in Parcels 2240 and 2101 of contract No. 30, as per permit, dated May 16, 1916.....	110 00
Henry C. Peck, for use of land during season of 1916, embraced in Parcel 55 of Contract No. 1, as per permit, dated May 16, 1916.....	25 00
Frank Doren, for use of land during season of 1916, embraced in Parcel 481 of Contract No. 25, as per permit, dated May 16, 1916.....	10 00
Perr Johnson, for use of land during season of 1916 embraced in Parcel 2550 of Contract No. 73, as per permit, dated May 16, 1916.....	25 00
Seaman Garline, for use of land during season of 1916, embraced in Parcel 4515 of Contract No. 30, as per permit, dated May 16, 1916.....	10 00
Raymond Schuyler, for use of land during season of 1916, embraced in Parcel 673 of Contract No. 14, as per permit, dated May 16, 1916.....	30 00
Smith Guyer, for use of land during season of 1916, embraced in Parcel 2358 of Contract No. 14, as per permit, dated May 17, 1916.....	25 00
Mrs. Elizabeth Russ for use of land during season of 1916, embraced in Parcel 3584 of Contract No. 20-C, as per permit, dated May 17, 1916.....	5 00
Milton J. Lathers, Sr., for use of land during season of 1916 embraced in Parcel 4026 of Contract No. 20-D, as per permit, dated May 19, 1916.....	15 00
John J. Hurley, for use of land during season of 1916, embraced in Parcel 491 of Contract No. 27, as per permit, dated May 23, 1916.....	25 00
James Knox, for use of land during season of 1916, embraced in Parcel 512 of Contract No. 27, as per permit, dated May 27, 1916.....	15 00

G. T. Whitman, for use of land during season of 1916, embraced in Parcel 4022 of Contract No. 20-C, as per permit, dated May 27, 1916.....	\$6 00
Joseph Winter, Sr., for use of land during season of 1916, embraced in Parcel 1660 of Contract No. 19, as per permit, dated May 27, 1916.....	5 00
Thomas F. Slavin, for use of land during season of 1916, embraced in Parcel T-80 of Terminal Contract No. 36, as per permit, dated June 2, 1916.....	12 00
Jay W. Hooper, for use of land during season of 1916, near Bridge 113 at Centerport, as per permit, dated June 7, 1916.	18 00
E. S. Lamberson, for use of land during season of 1916, embraced in Parcels 3676, 3247, 3480 of Contract No. 30, as per permit, dated June 2, 1916.....	100 00
Penizzi Carmine, for use of land during season of 1916, embraced in Parcel 2639 of Contract No. 20-B, as per permit, dated June 2, 1916.....	10 00
Edward W. Stickney, for use of land during season of 1916, embraced in Parcel 498 of Contract No. 27, as per permit, dated June 3, 1916.....	5 00
Clarence Wollaber, for use of land during season of 1916, embraced in Parcel 3362 of Contract No. 30, as per permit, dated June 3, 1916.....	10 00
A. W. Post, for use of land during season of 1916, embraced in Parcel 1258 of Contract No. 20, as per permit, dated June 6, 1916.....	25 00
Beecher Wells for use of land during season of 1916, embraced in Parcel 2650 of Contract No. 1, as per permit, dated June 6, 1916.....	40 00
Mrs. Sarah A. Davidson, for use of land during season of 1916, embraced in Parcel 464 of Contract No. 25, as per permit, dated June 7, 1916.....	8 00
O. R. Kanzog, for use of land during season of 1916, embraced in Parcel 1627 of Contract No. 30, as per permit, dated June 7, 1916.....	40 00
Edgar H. Van Slyke, for use of land during season of 1916, embraced in Parcel 1635 of Contract No. 30, as per permit, dated June 7, 1916.....	40 00
W. H. Pulis, for use of land during season of 1916, embraced in Parcel 4059 of Contract No. 20-D, as per permit, dated June 9, 1916.....	10 00
James W. Harder for use of land during season of 1916, embraced in Parcel 1618 of Contract No. 30, as per permit, dated June 9, 1916.....	10 00
Harvey D. Greene, for use of land during season of 1916, embraced in Parcel 2176 of Contract No. 70, as per permit, dated June 13, 1916.....	25 00
N. F. Van Vranken, for use of land during season of 1916, embraced in Parcel 2363 of Contract No. 14, as per permit, dated June 13, 1916.....	50 00

Mrs. Lucy E. Hurlbut, for use of land during season of 1916, embraced in Parcel 1056-A of Contract No. 55, as per permit, Dated June 13, 1916.....	\$10 00
C. H. Gilbert, for use of land during season of 1916, embraced in Parcels 113, 131 and 132 of Contract No. 3, as per permit, dated June 13, 1916.....	5 00
Jerry Crowley, for use of land during season of 1916, embraced in Parcel 466 of Contract No. 25, as per permit, dated June 13, 1916.....	12 50
Charles Hendershot, for use of land during season of 1916, embraced in Parcel 3332 of Contract No. 20-D, as per permit, dated June 13, 1916.....	2 00
Antonio Rata, for use of land during season of 1916, embraced in Parcel 3328 of Contract No. 20-D, as per permit, dated June 13, 1916.....	1 00
Wm. H. Hall, for use of land during season of 1916, embraced in Parcel 2387 of Contract No. 14, as per permit, dated June 19, 1916.....	15 00
Arthur E. Casler, for use of land during season of 1916, embraced in Parcel 1617-A of Contract No. 30, as per permit, dated June 20, 1916.....	12 00
William Turley, for use of land during season of 1916, embraced in Parcels 2224-A and 2203 of Contract No. 21, as per permit, dated June 20, 1916.....	50 00
Frank T. Pearse, for use of land during season of 1916, embraced in Parcels 2253 and 2359 of Contract No. 14, as per permit, dated June 23, 1916.....	75 00
Charles H. White, for use of land during season of 1916, embraced in Parcel 410 of Contract No. 25, as per permit, dated June 27, 1916.....	6 00
Vito Sabbatino, for use of land during season of 1916, embraced in Parcel 282 of Contract No. 8, as per permit, dated July 1, 1916.....	10 00
Anthony Brownscheidel, for use of land during season of 1916, embraced in Parcel 1826 of Contract No. 19, as per permit, dated July 1, 1916.....	3 00
Homer Rickard, for use of land during season of 1916, embraced in Parcel 4467 of Contract 20-D, as per permit, dated July 3, 1916.....	30 00
Peter Marticello, for use of land during season of 1916, embraced in Parcel 3151 of Contract No. 20-D, as per permit, dated July 6, 1916.....	5 00
John Pike, for use of land during season of 1916, embraced in Parcels 421 and 422 of Contract No. 25, as per permit, dated July 6, 1916.....	25 00
C. M. Beiter, for use of land during season of 1916, embraced in Parcel 3681A of Contract No. 19, as per permit, dated July 19, 1916.....	10 00

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F. B. Casey, for use of land during season of 1916, embraced in Parcel 2242-A of Contract No. 30, as per permit, dated July 17, 1916	\$5 00
R. S. Pixley, for use of land during season of 1916, embraced in Parcel 2205 of Contract No. 21, as per permit, dated July 19, 1916.....	10 00
Frank Ives, for use of land during season of 1916, embraced in Parcel 2354 of Contract No. 14, as per permit, dated July 22, 1916.....	40 00
Thomas W. Winnie, for use of land during season of 1916, embraced in Parcel 1938 of Contract No. 14, as per permit, dated July 26, 1916.....	10 00
C. A. Cramer, for use of land during season of 1916, embraced in Parcel 428 of Contract No. 25, as per permit, dated July 28, 1916.....	10 00
John Campbell, for use of land during season of 1916, embraced in Parcel 288 of Contract No. 8, and Parcel 4737 of Contract No. 20-D, as per permit, dated July 17, 1916....	50 00
John Bruen, for use of land during season of 1916, embraced in Parcels 430 and 3186 of Contract No. 25, as per permit, dated July 31, 1916.....	20 00
R. C. Bush, for use of land during season of 1916, embraced in Parcels 554 and 750 of Contract No. 19, as per permit, dated August 23, 1916.....	10 00
Clarence D. Smith, for use of land during season of 1916, embraced in Parcel 992 of Contract No. 55, as per permit, dated September 1, 1916.....	10 00
Earl Braman, for use of land during season of 1916, embraced in Parcels 2948, 2949 and 2952 of Contract No. 77, as per permit, dated September 1, 1916.....	8 00
Wm. F. Wilson, for use of land during season of 1917, embraced in Parcel 2175 of Contract No. 71-A, as per permit, dated November 6, 1916.....	25 00
Mary E. McDonnell and Brother, for use of land during season of 1917, embraced in Parcel 2147 of Contract No. 71-A, as per permit, dated November 6, 1916.....	5 00
Harold B. Richardson, for use of land from November 9, 1916, to November 9, 1917, embraced in Parcels 2495 and 2501 of Contract No. 43, as per permit, dated November 9, 1916.	40 00
Charles Whitmyer, for use of land during season of 1917, embraced in Parcel 666 of Contract No. 14, as per permit, dated November 15, 1916.....	50 00
Frank A. Wilcox, for use of land during season of 1917, embraced in Parcel 4509 of Contract No. 20-D, as per permit, dated November 28, 1916.....	65 00

\$3,849 75

APPENDIX "C."

Received for rentals other than for farming purposes

Richard Bush, for privilege of occupying a portion of State land along the towing path of the Erie canal at Young street in the city of Tonawanda and to temporarily maintain a building thereon, as per permit dated December 1, 1915	\$25 00
Bergen & Co., for rental of premises within the lands appropriated for Barge canal terminals at Newtown creek, from December 1, 1915, to December 1, 1916.....	1,500 00
Boutwell Milling & Grain Co., for rental of premises within the lands appropriated for Barge canal terminals at Troy from November 1, to December 24, 1915.....	621 00
A. Rioux, for use of land embraced within Parcel No. 2209 of Contract No. 14 and to construct and temporarily maintain a building thereon, as per permit dated December 15, 1915	50 00
Frank A. Dudley and Clifford D. Beebe, for privilege of maintaining a track along the canal in Monroe county from January 9th, to July 9, 1916.....	375 00
E. J. Conlon, for rental of premises within site of Barge canal terminal, Contract No. 41, from February 11, 1915, to August 11, 1916.....	2,083 30
William Baker, for rental of premises within lands appropriated for Barge canal terminals at Gowanus bay from January 1, 1916, to January 1, 1917.....	100 00
Daniel Norton Ice Co., for rental of island in canalized Mohawk river and privilege of erecting a building thereon, as per permit dated January 17, 1916.....	100 00
T. A. Clexton, for rental of premises for one year from December 11, 1915, within site of proposed terminal at Troy, embraced within Parcel No. T-94 of Terminal Contract No. 41, as per permit dated February 19, 1916.....	20 00
Remington Arms and Ammunition Co., for rental of premises for storage purposes in the village of Ilion between Main street and the Erie canal for the year of 1916, as per permit dated February 15, 1915.....	200 00
C. Burton Rice, for rental of land for storage purposes embraced in Parcel No. 1983 of Contract No. 14, as per permit dated February 16, 1916.....	20 00
Lockport & Newfane Mill Owners' Association in payment for water to be furnished between the dates of January 6, 1916 and July 6, 1916. \$3,750 00	
Less rebate for water the State was unable to furnish between the dates of July 5, 1915 and January 6, 1916.....	3,004 93
	745 07
Beechnut Packing Co., for privilege of constructing and maintaining a building at Canajoharie at an annual rental of \$50.00, as per permit, dated March 27, 1916.....	50 00

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Harry Steel, for privilege of occupying State land in the vicinity of Schuyler bridge, Watervliet, at an annual rental of \$3.00, as per permit, dated March 28, 1916.....	\$3 00
Mary Burke, for rental of buildings and use of land embraced in Parcel 966 of Contract No. 1, at an annual rental of \$85.00, as per permit, dated February 11, 1916.....	85 00
The Cohosac Ice Co., for privilege of occupying land and erecting an ice house thereon in the vicinity of Crocker's Reef, at an annual rental of \$75.00, as per permit, dated March 9, 1916	75 00
Dilts Machine Works, for rental of land at Fulton, as per permit, dated October 29, 1912, annual rental.....	6 00
D. S. Burleigh, Assistant Superintendent, from Timothy Cronin, for rental of house at Baldwinsville, from April 1 to November 1, 1916.....	64 00
Caroline Rooney, for rental of State land at North Tonawanda, as per permit, dated April 13, 1916. Annual rental.....	25 00
John E. Schuyler, for privilege of constructing and temporarily maintaining a building on State land along the Mohawk river in the city of Little Falls, as per permit, dated April 1, 1916. Annual rental.....	60 00
The South Side Coal Co., for privilege of constructing and temporarily maintaining a bin for coal on State land in the vicinity of Lock No. 39 of the old Erie canal, as per permit, dated April 21, 1916. Annual rental.....	15 00
H. P. Hamlin, for rental of land in Ilion, as per permit, dated May 5, 1915. Annual rental.....	60 00
Schenectady Contracting Co., for rental of land on berme side of canal between Nott and Jefferson streets, Schenectady, as per permit, dated April 16, 1903. Annual rental.....	300 00
John Hickey, for rental of land in Fulton, as per permit, dated April 21, 1914. Annual rental.....	10 00
Utica Steam Engine & Boiler Works, for privilege of maintaining a side track on berme bank of Erie canal at Utica, as per permit, dated August 28, 1912. Annual rental.....	12 00
Central New York Gas & Electric Co., for privilege of maintaining transmission line at Geneva at \$1.00 per pole per annum, as per permit, dated November 29, 1910. Rental for 1916	73 00
E. E. Burleigh, for rental of land at Hinmansville on Oswego canal, as per permit, dated May 10, 1915. Annual rental..	10 00
F. W. Woolley, for rental of land in Ilion, as per permit, dated May 25, 1915. Annual rental.....	50 00
Empire Gas & Electric Co., for privilege of maintaining transmission line from Seneca Falls, east to Mud Lock along route of Barge Canal Contract "C," at \$1.00 per pole per annum, as per permit, dated October 14, 1914. Rental for 1916	111 00

W. L. R. Durkee, for privilege of occupying land and temporarily maintaining a building thereon in Parcel 502 of Contract No. 27, as per permit, dated May 5, 1916. Annual rental	\$10 00
New York State Railways, for privilege of maintaining a railway line at Bushnell's Basin, as per permit, dated October 30, 1912. Rental to May 10, 1916.....	1 25
Michael Ross, for privilege of occupying two parcels of land at Fulton, and maintaining a building thereon, as per permit, dated April 21, 1914. Annual rental.....	25 00
George G. Han, for privilege of temporarily occupying a barn on Parcel 4827 of Contract "D," at \$2.00 per month, as per permit, dated May 23, 1916. Rental to November 23, 1916.	12 00
Morin Brothers, for privilege of occupying land and maintaining a dock thereon in the city of Fulton, as per permit, dated May 1, 1916. Annual rental.....	25 00
Tony Carboni, for privilege of cutting grass at Locks Nos. 2, 3, 4, Waterford.....	10 00
City Restaurant & Dairy Lunch Co., Inc., for privilege of constructing and maintaining an addition to its building on East Main street, Ilion, as per permit, dated May 23, 1916. Annual rental	60 00
C. H. Betts, for use of land and privilege of constructing and temporarily maintaining building thereon at Church street, Lyons, as per permit, dated June 17, 1916. Annual rental..	5 00
J. W. Schults, for privilege of constructing and temporarily maintaining a coal office and scales at Canajoharie, as per permit, dated June 27, 1916. Annual rental.....	30 00
Syracuse Malleable Iron Works, for privilege of constructing and temporarily maintaining a single track on State land in the city of Syracuse, near North Geddes street, as per permit dated June 29, 1916. Annual rental.....	50 00
Adirondack Electric Power Corporation, for privilege of reinforcing poles of transmission line from Mechanicville to Watervliet, as per permit, dated February 18, 1916. Annual rental	130 00
Caroline Shepard, for use of land at Fort Miller, as per permit, dated July 9, 1915. Annual rental.....	5 00
P. McGovern & Co., for privilege of temporarily making use of one-half of dock frontage on East river in Long Island City, embraced in Terminal Appropriation Map No. 97, at \$200.00 per month, as per permit, dated August 24, 1916. Rental from August 24 to to December 25, 1916.....	800 00
W. C. Harrington, for use of land at Fort Ann, as per permit, dated July 28, 1915. Annual rental.....	15 00
Fred Chamberlain, for use of land and privilege of temporarily maintaining a boat house on Parcel 271 of Contract No. 12, as per permit, dated September 1, 1916. Annual rental	10 00

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Lockport & Newfane Mill Owners' Association, in payment for water to be furnished them from July 6, 1916, to January 6, 1917.....	\$3,750 00	
Less rebate for water the State was unable to fur- nish between the dates of January 6, 1915, and July 6, 1916.....	898 56	
		<hr/>
		\$2,851 44
Frank Reynolds, for privilege of cutting hay on Parcels 436 and 438 of Contract No. 25.....		10 00
West Virginia Pulp & Paper Co., for privilege of filling in portion of prism of old Champlain canal at Mechanicville, for use for storage purposes, as per permit, dated August 4, 1916. Annual rental.....		300 00
Atlas Knitting Co., for use of land at Amsterdam, as per per- mit, dated September 10, 1915. Annual rental.....		100 00
Albion Athletic Association, for use of land in Albion, as per permit, dated July 27, 1915. Annual rental.....		5 00
American Locomotive Co., for privilege of maintaining scale houses and switch railroad track at Schenectady, as per per- mit, dated July 3, 1914. Annual rental.....		75 00
Rome Merchant Iron Mills, for privilege of maintaining side track across lands appropriated for Barge canal purposes at Rome, as per permit, dated August 8, 1912. Annual rental		12 00
John Carroll, for rental of land at Fulton, as per permit, dated July 16, 1914. Annual rental.....		20 00
T. A. Clexton, for rental of premises for one year from De- cember 11, 1916, within site of proposed terminal at Troy, embraced within Parcel T-94 of Terminal Contract No. 41, as per permit, dated February 19, 1916.....		20 00
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		\$11,430 06

APPENDIX "D."

Received for sales of sand and gravel.

From D. S. Burleigh, Assistant Superintendent, from Phoenix Toilet & Paper Mfg. Co., for 39 yards of gravel taken from spoil bank at Phoenix at 25 cents.....	\$9 75
A. C. Parker for 16 loads of stone and gravel at 25 cents, per load taken from spoil bank at Phoenix.....	4 00
Frank M. Williams, State Engineer, for sand and gravel sold from spoil bank at Rome as follows:	
Cummings & McCale, 825 cubic yards at 25 cents.....	206 25
George F. Egger, 28.48 cubic yards at 25 cents.....	7 12
F. C. Rossner, 9 cubic yards at 25 cents.....	2 25
Rome Wire Co., 400 cubic yards at 25 cents.....	100 00
Geo. F. Egger, 12 cubic yards at 25 cents.....	3 00
H. J. O'Neill, Assistant Engineer from:	
George C. Egger.....	5 13
Howard Evans	1 12

Wells Bros. Co., for material taken from State land at Jackson- burg	\$56 70
For sand and gravel taken from site of Contract No. 30..	17 10
H. R. Beebe, for gravel taken from State land at Rome. Per- mit dated October 6, 1915.....	76 25
Joseph Byones, for gravel taken from spoil bank at Rome....	3 00
William Pendo, for gravel taken from site of Contract No. 43.	50
The P. B. McCaghey Co., for 231½ cubic yards of gravel taken from spoil bank on south side of the Mohawk river between Little Falls and Jacksonburg. Permit dated July 13, 1915..	34 73
George D. Willams, Division Engineer, from Village of Fulton- ville for 10 loads of spoil removed from Parcel No. 4214 of Contract No. 20-D.....	1 00
William Weaver, for gravel taken from vicinity of Lock No. 33, old Erie canal.....	1 00
Whipple-Winkle Co., for sale of gravel not to exceed 50 yards per year from spoil bank at Frankfort at 15 cents per cubic yard. Permit dated June 16, 1916. Payment for year.....	7 50
Beechnut Packing Co., for 83 loads of sand taken from Parcel 2520 of Contract No. 20-C, at 15 cents.....	12 45
Herkimer County Realty Co., partial payment for materials to be removed from south side of improved canal channel oppo- site Mohawk-Herkimer terminal. Permit dated July 7, 1916	500 00
Central Dairy Co., for gravel taken from land at Conovers Flats, Randall, 30 cubic yards at 15 cents. Permit dated September 1, 1916.....	4 50
Niagara, Lockport & Ontario Power Co., for material taken from lands at Lockport, as per bill of sale dated September 14, 1916, 150 cubic yards at 5 cents.....	7 50
Rome Wire Co., for gravel taken from State land at Rome, 1,000 cubic yards at 25 cents.....	250 00
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	\$1,310 85
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APPENDIX "E."

Received for sales of materials other than sand and gravel

David H. Lewis, Assistant Superintendent, from:	
Mohawk Valley Waste & Metal Co., for 69,070 pounds of scrap iron (616.7 cwt. at 52 cents per cwt.).....	\$320 68
Joseph Galinsky, for old tires and tubes.....	7 12
Whitehead Brothers Co., for old timbers taken from Crescent aqueduct	75 00
Shaughnessy Ice Co., for old timbers taken from Crescent aqueduct	221 75

W. S. Hamlin, Assistant Superintendent, from:

H. C. McDougall, for old timber from Pattersonville aqueduct	\$75 00
DuBois, Bennett & Son, for old timber from locks	20 00
Ruben Snyder, for old timber	40 00
Fort Plain Rifle Club, old timber and plank	8 50
Mrs. Kittie Myers, for old plank	10 00
John McLane, for 2846 pounds of old iron at \$7 per ton	9 96
Holler & Shepard, for old timber	5 00
M. Berkman, for 24½ tons of iron at \$5	121 65
The Foundation Co., for 18,690 feet of lumber at \$15	280 35

D. S. Burleigh, Assistant Superintendent, from:

Auburn Iron Co., for old rope and iron taken from State yard at Port Byron	36 44
C. Blumberg, for sale of scrap iron from State yard at Waterloo	14 52
Louis Bernstein, for 45,820 pounds of scrap iron at \$8.75 per ton	200 46
Joe Clinsky, for 68,365 pounds of scrap iron taken from old head gates at Fulton at \$6.10 per ton	208 51
1625 pounds at \$9 per ton	7 31
Sam Weinberg, for material taken from old bridge superstructure at Utica, 1 ton iron posts	8 00
2 ton broken iron at \$6	12 00
Louis Bernstein, for 20,645 pounds of scrap iron at \$11.60 per ton	119 74
20,330 pounds of scrap iron at \$7.60 per ton	77 25

Henry A. Kunze, Assistant Superintendent, from:

The Buffalo Co-operative Stove Co., for 5360 pounds of scrap iron taken from State yard at Buffalo, at \$11 per ton	29 48
Barney Lazershantz & William Holt for 56,700 pounds of scrap iron at \$9 per ton	255 15
1000 pounds of old rope at 1½ cents	15 00
Frank Lenehan & Son, for 5050 pounds of scrap iron sold from State yard at Buffalo at \$10 per ton	25 25

Jacob Allmeroth, Assistant Superintendent, from:

T. Hanlon & Co., for 30,155 pounds of scrap iron at \$10 per ton	150 77
2275 pounds of old rope at 4½ cents	96 68
John Avers, for 25 loads of stone from spoil banks at Gates	2 50
State Highway Construction Co., for 150 pounds of 40 per cent. dynamite at 27 cents	40 50
Rochester Lime Co., for dynamite and exploders	70 06
The W. S. Cooper Co., for lumber used on Barge canal, Contract No. 106	300 94

Joseph Moore, for old timbers from Randall aqueduct.....	\$24 00
The Shaughnessy Ice Co., for old timber taken from Crescent aqueduct	100 00

\$2,989 57

APPENDIX "F."

Received for sales of buildings

David H. Lewis, Assistant Superintendent, from:	
George B. Dygert, for old lock house at Lock No. 30.....	\$15 00
D. S. Burleigh, Assistant Superintendent, from:	
M. J. Fries, for old house situated near Glenfield bridge...	5 00
Victor S. Virkler, for old bridge tender's house near Lowville.	5 00
Eugene Drury, for old lock house from Orchard lock.....	5 00
John Van Riper, for old building located at about Station 6404 within site of Contract "D" at Waterloo, as per bill of sale dated December 9, 1915.....	25 00
Frank E. Farron, for sale of old buildings on Parcels 5001, 5003, 5009, 5010, 5011, 5014, 5017 of Contract "D".....	10 00
David S. Williams, for sale of building located at Yorkville, as per bill of sale dated March 4, 1916.....	35 00
Michael Sullivan, for sale of barn located on Parcel 3074 of Contract No. 37, as per bill of sale dated March 30, 1916....	25 00
R. B. York, for sale of building on east side of Shinnecock canal, as per bill of sale dated June 7, 1916.....	15 00
H. Higgins, for building located on Parcel 4103 of Contract No. 37, as per bill of sale dated July 17, 1916.....	125 00
Wallace H. Bullock, for old barn located on Parcel 697 of Contract No. 14, as per bill of sale dated September 26, 1916.	75 00
W. D. Dodge, for old shanty at North Lake.....	10 00
H. F. Dumas, for two barns and shed located on Parcel 5103 of Contract No. 73-A, as per bill of sale dated November 6, 1916	15 00
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	\$365 00
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APPENDIX "G"

Miscellaneous Receipts

David H. Lewis, Assistant Superintendent:	
From Delaware & Hudson Co., refund on overcharge on barrel of oil	\$1 08
From Aetna Brick & Fireproofing Co., for use of dredge, 4 days	109 72
W. S. Hamlin, Assistant Superintendent:	
From General Electric Co., refund for globes damaged in shipment	3 75

D. S. Burleigh, Assistant Superintendent:	
From Robert Provo, for hull of old dredge.....	\$50 00
Henry A. Kunze, Assistant Superintendent:	
From Buffalo General Electric Co., refund on overcharge for electricity	1 16
From Hamlin & Hamlin, for certified copy of a lien.....	1 00
From O. D. Thomas, for certified copy of resolution of Canal Board	2 00
From the Delaware & Hudson Co., rebate on freight.....	29 00
From Standard Wall Paper Co., in payment for privilege granted to construct a drain on site of Contract No. 73-A, as per agreement, approved by Canal Board, February 23, 1916	8,484 37
Interest on daily balances in New York State National Bank, from October 1, 1915, to October 1, 1916.....	325 40
	<hr/>
	\$9,007 48
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APPENDIX "H"

Fees Received for Filing Liens, Mortgages and Making Searches of Canal Boats

Estate of M. Doran.....	\$1 00
W. P. Doran.....	50
T. J. McNamara.....	25
John T. Delaney.....	25
Henry F. Toohey.....	25
George Taylor	25
G. L. Prescott.....	50
Roy Ernest	25
George H. Upson.....	25
Austin & McKown.....	25
F. L. C. Keating.....	25
Frederick B. Wills.....	25
Clarence W. Darling.....	25
A. W. Knight.....	25
F. J. Lucy.....	25
Lee & Dowling.....	25
Thos. C. Burke.....	25
James E. Rafter.....	25
O. E. Southwick.....	25
Fred Brown	25
Foley & Martin.....	1 00
James T. Cross.....	25
Grant E. Freer.....	50
Citizens' Brewing Corporation.....	25
A. S. Annis.....	50
Winfield Sullivan	25
Thomas C. Burke.....	25
Converse & Converse.....	25
Wm. J. Warwick.....	2 00

Fiske & Lewis.....	\$1 75
F. A. White.....	25
Witherbee-Sherman Co.	50
Foley & Martin.....	75
W. W. Byam.....	25
Wm. P. Baker.....	50
Piper & Pendergast.....	25
W. B. Walsh.....	2 50
George E. Upson.....	25
A. J. O'Connor.....	25
Mackie & Rucher.....	25
Richard Linehan	50
Stanley & Gidley.....	25
George W. DeWitt.....	50
Sagamore Navigation Co.....	1 00
McFarlan, Taylor & Costello.....	2 75
McNamara & Harrington.....	50
Frank K. Robinson.....	25
James W. Follette.....	25
Gerson Rubenstein	25
Lockport Dry Docks..!	50
Susie E. Pryor.....	75
George J. Smith.....	25
George H. Dunbar.....	25
Stanley & Gridley.....	25
John MacGrate	25
Curtis & Warren.....	25
George J. Smith.....	50
Frank K. Robinson.....	25
A. J. O'Connor.....	50
S. C. Capron.....	25
Thomas C. Burke.....	50
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\$29 75	
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APPENDIX "I"

From H. S. Loucks, Inspector of Steam Vessels,
fees collected for inspection of steam vessels
and issuing original and renewal of licenses,
pursuant to chapter 42, Laws of 1909:

1916.

January	\$12 00
March	3 00
April	106 00
May	643 50
June	559 00
July	949 50
August	1,017 00
September	589 50

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October	\$141 00	
November	8 00	
		<hr/>
		\$4,028 50
		<hr/>
From A. C. Snyder for renewal of license.....		\$3 00
From H. C. Barton for renewal of license.....		3 00
From Eugene W. Cole for renewal of license.....		3 00
From Patrick Benson for renewal of license.....		3 00
From William A. Goodfriend for renewal of license.....		3 00
From M. J. Palmer for original license.....		5 00
From Harry Stevens for renewal of license.....		3 00
From E. J. Krafft for renewal of license.....		3 00
From John W. Rounds for original license.....		5 00
From Paul Klink for renewal of license.....		3 00
From J. G. Harvey for renewal of license.....		3 00
From F. Martel for renewal of license.....		3 00
From V. S. Ervin for renewal of license.....		3 00
From Albert Mero for renewal of license.....		3 00
From John H. Taylor for original license.....		5 00
From Robert Smith for renewal of license.....		3 00
From Fred N. Wildman for original license.....		5 00
From Chas. W. McCable for renewal of license.....		3 00
From Ed. H. Howell for renewal of license.....		3 00
From T. D. Griffin for renewal of license.....		3 00
From C. S. Burleigh for renewal of license.....		3 00
From George A. Farrell for original license.....		5 00
From Emile Pearson for original license.....		5 00
From F. M. Warner for original license.....		5 00
From Chas. Jay Kretser for original license.....		5 00
From James E. Doherty for original license.....		5 00
From Andrew Gurnsey for renewal of license.....		3 00
From Henry Mansfield for renewal of license.....		3 00
From March Lewis for renewal of license.....		3 00
From W. W. Regen for renewal of license.....		3 00
From M. H. Hubbard for renewal of license.....		3 00
From Wm. Dart for renewal of license.....		3 00
From Robert O. Bird for renewal of license.....		3 00
From M. J. Hourigan for original license.....		5 00
From W. H. Fountaine for renewal of license.....		3 00
From Adolph Rovits for original license.....		6 00
From Dan M. Hunthy for renewal of license.....		3 00
From Walter Grant for renewal of license.....		3 00
From H. C. Claire for renewal of license.....		3 00
From Clifford Wood for renewal of license.....		3 00
From George Stemple for renewal of license.....		3 00
From W. L. Reed for renewal of license.....		3 00
From W. L. Reed for renewal of license.....		3 00
From Philip Roach for renewal of license.....		3 00
From Wm. Cronin for renewal of license.....		3 00
From F. S. Tower for renewal of license.....		3 00

From E. S. Gardinier for renewal of license.....	\$3 00
From James Argnette for renewal of license.....	3 00
From E. Mansfield for renewal of license.....	3 00
From H. D. Winters for renewal of license.....	3 00
From Wm. E. Cross for renewal of license.....	3 00
From James V. Ibbs for renewal of license.....	3 00
From George McKey for renewal of license.....	3 00
From W. H. Lamb for renewal of license.....	3 00
From Thomas S. Hughes for original license.....	5 00
From L. G. Barber for renewal of license.....	3 00
From G. E. Barber for renewal of license.....	3 00
From F. McLaughlin for renewal of license.....	3 00
From Jennie Halstead for renewal of license.....	3 00
From Stephen Halstead for renewal of license.....	3 00
From Stephen Halstead for renewal of license.....	3 00
From Wm. H. Decker for renewal of license.....	3 00
From L. J. Londers for original license.....	5 00
From Charles N. Wood for renewal of license.....	3 00
From N. D. Radell for original license.....	5 00
From E. E. Watson for renewal of license.....	3 00
From E. S. Delmark for renewal of license.....	3 00
From Ellwood Dearl for renewal of license.....	3 00
From J. M. Alerbury for renewal of license.....	3 00
From H. F. Bowman for renewal of license.....	3 00
From E. F. Edgman for original license.....	5 00
From Ray Gaylord for renewal of license.....	3 00
From C. H. Jeffrey for original license.....	5 00
From L. D. Harwood for original license.....	5 00
From H. Simporth for renewal of license.....	3 00
From E. A. Clark for renewal of license.....	3 00
From M. A. Brush for renewal of license.....	3 00
From John Rivett for renewal of license.....	3 00
From E. L. Marks for renewal of license.....	3 00
From W. S. Ball for renewal of license.....	3 00
From Edwin Ball for renewal of license.....	3 00
From Wm. Maloney for renewal of license.....	3 00
From E. B. Barrett for renewal of license.....	3 00
From A. C. Rivett for renewal of license.....	3 00
From J. H. Powers for renewal of license.....	3 00
From C. A. Covey for renewal of license.....	3 00
From S. Steaver for renewal of license.....	3 00
From Curtin Ervin for renewal of license.....	3 00
From J. C. Barker for renewal of license.....	3 00
From H. J. Abbott for renewal of license.....	3 00
From E. P. Vincent for original license.....	5 00
From H. M. Petril for renewal of license.....	3 00
From George B. Ober for renewal of license.....	3 00
From Wilbur Howland for renewal of license.....	3 00
From A. F. Fulton for renewal of license.....	3 00
From Fred Howland for renewal of license.....	3 00

From L. L. Rosa for renewal of license.....	\$3 00
From George Champ for renewal of license.....	3 00
From Dan Conroy for renewal of license.....	3 00
From Frank Henderson for renewal of license.....	3 00
From Frank Starkey for original license.....	5 00
From John Olson for renewal of license.....	3 00
From S. Howland for renewal of license.....	3 00
From Ernest Day for original license.....	5 00
From Irving Anderson for original license.....	5 00
From Wm. F. Dunn for renewal of license.....	3 00
From James Joseph for original license.....	5 00
From George Cainer for original license.....	5 00
From J. B. Dimick for renewal of license.....	3 00
From J. A. Therre for renewal of license.....	3 00
From A. J. Falter for renewal of license.....	3 00
From J. R. Wise for renewal of license.....	3 00
From W. A. Esterbrook for renewal of license.....	3 00
From W. H. Nichols for renewal of license.....	3 00
From L. A. Withey for renewal of license.....	3 00
From E. P. Aubuf for renewal of license.....	3 00
From W. G. Bennett for renewal of license.....	3 00
From G. R. Entwistle for original license.....	5 00
From J. J. Barber for renewal of license.....	3 00
From M. Barber for renewal of license.....	3 00
From Edwin Hamilton for original license.....	5 00
From John Root for renewal of license.....	3 00
From W. B. Lord for original license.....	5 00
From Carl Wendell for original license.....	5 00
From W. V. Long for renewal of license.....	3 00
From Grayden Long for renewal of license.....	3 00
From C. L. Lewis for renewal of license.....	3 00
From H. V. Rice for renewal of license.....	3 00
From D. C. Walkley for renewal of license.....	3 00
From J. Blackman for renewal of license.....	3 00
From Patrick Murphy for original license.....	5 00
From J. R. Jones for original license.....	5 00
From Wm. H. Bushwick for renewal of license.....	3 00
From C. Sanborn for original license.....	5 00
From Fred Ward for original license.....	5 00
From J. C. Cate for renewal of license.....	3 00
From A. Brandtt, Jr., for original license.....	5 00
From E. T. Dewitt for renewal of license.....	3 00
From Fred Verdier for renewal of license.....	3 00
From Chas. H. Mason for renewal of license.....	3 00
From L. C. Van Patten for renewal of license.....	3 00
From J. L. Rathbun for renewal of license.....	3 00
From Wm. F. Hoke for renewal of license.....	3 00
From Wm. E. Eldred for renewal of license.....	3 00
From J. S. Gazely for renewal of license.....	3 00
From John F. Graham for renewal of license.....	3 00

From W. W. West for renewal of license.....	\$3 00
From Chas. F. Herland for renewal of license.....	3 00
From I. J. Laning for renewal of license.....	3 00
From I. J. Laning for renewal of license.....	3 00
From J. E. Van Order for renewal of license.....	3 00
From Willard Congdon for original license.....	5 00
From Frank Ritz for original license.....	5 00
From E. J. Noonan for original license.....	5 00
From Jas. R. Edwards for original license.....	5 00
From Wm. Gleasner for renewal of license.....	3 00
From O. F. Johnson for original license.....	5 00
From F. A. Allberger for renewal of license.....	3 00
From Calvin Sweazey for renewal of license.....	3 00
From Wm. H. Lane for renewal of license.....	3 00
From Wm. H. Lane for renewal of license.....	3 00
From Ray C. Shurger for renewal of license.....	3 00
From Robert C. Wye for renewal of license.....	3 00
From Thos. G. Tuttle for renewal of license.....	3 00
From James V. Zwick for renewal of license.....	3 00
From Wm. Jarvis for renewal of license.....	3 00
From L. R. Pierce for renewal of license.....	3 00
From L. J. Patterson for renewal of license.....	3 00
From C. C. Sykes for renewal of license.....	3 00
From Wm. Sweazey for renewal of license.....	3 00
From C. A. Button for renewal of license.....	3 00
From George N. Fischer for renewal of license.....	3 00
From George Pholf for renewal of license.....	3 00
From J. A. McWilliams for renewal of license.....	3 00
From J. H. Patterson for original license.....	5 00
From Wm. J. Mago for original license.....	5 00
From B. J. Ward for original license.....	5 00
From Chas. McCormick for original license.....	5 00
From Geo. L. Hoyser for original license.....	5 00
From A. C. Gillis for renewal of license.....	3 00
From A. B. Gillis for original license.....	5 00
From Wm. Harris for original license.....	5 00
From H. J. McConnell for renewal of license.....	3 00
From E. L. Hildebrandt for renewal of license.....	3 00
From Herman Frantz for renewal of license.....	3 00
From Jos. Stanton for renewal of license.....	3 00
From E. W. Sutton for renewal of license.....	3 00
From Wm. Brenson for renewal of license.....	3 00
From Wm. Murphy for renewal of license.....	3 00
From David Sutton for renewal of license.....	3 00
From E. W. Sutton, Jr., for renewal of license.....	3 00
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For inspection of steamer "Margaret"	5 00
For inspection of steamer "Anita"	7 50
For inspection of steamer "Bijou 2nd"	5 00
For inspection of steamer "Uncas"	5 00
For inspection of steamer "Shirley"	5 00
For inspection of steamer "LaVeuve"	5 00
For inspection of steamer "Locust"	10 00
For inspection of steamer "Cecilia"	5 00
For inspection of steamer "Gypsy"	5 00
For inspection of steamer "Ella"	5 00
For inspection of steamer "Bob 2nd"	5 00
For inspection of steamer "Echo"	7 50
For inspection of steamer "Louise"	5 00
For inspection of steamer "Evelyn"	12 50
For inspection of steamer "Say When"	5 00
For inspection of steamer "Rambler"	5 00
For inspection of steamer "Francana"	5 00
For inspection of steamer "Lake View"	5 00
For inspection of steamer "Big Moose"	10 00
For inspection of steamer "Spray"	5 00
For inspection of steamer "Glenmore"	5 00
For inspection of steamer "Montcalm"	7 50
For inspection of steamer "Lone Pine"	5 00

For inspection of steamer "Skip"	\$5 00
For inspection of steamer "Minnie"	5 00
For inspection of steamer "Olive"	7 50
For inspection of steamer "Mermaid"	5 00
For inspection of steamer "Ida"	5 00
For inspection of steamer "Wanderer"	5 00
For inspection of steamer "Old Glory"	5 00
For inspection of steamer "Saranac"	10 00
For inspection of steamer "Riposa"	5 00
For inspection of steamer "Loon"	10 00
For inspection of steamer "Amperand"	7 50
For inspection of steamer "Mildred A"	5 00
For inspection of steamer "Lila"	5 00
For inspection of steamer "Say When"	5 00
For inspection of steamer "Red Wing"	5 00
For inspection of steamer "Claremont"	7 50
For inspection of steamer "Polly Anna"	10 00
For inspection of steamer "WaWa"	5 00
For inspection of steamer "Atalanta"	7 50
For inspection of steamer "Hyack"	5 00
For inspection of steamer "Imperator"	5 00
For inspection of steamer "Arbutus"	5 00
For inspection of steamer "Safety First"	5 00
For inspection of steamer "Comanche"	5 00
For inspection of steamer "Doris"	12 50
For inspection of steamer "Eagle"	5 00
For inspection of steamer "Guess"	5 00
For inspection of steamer "Spray"	5 00
For inspection of steamer "Fire Fly"	5 00
For inspection of steamer "Nestor"	5 00
For inspection of steamer "Thistle"	5 00
For inspection of steamer "Whiteface"	5 00
For inspection of steamer "Echo"	5 00
For inspection of steamer "Morningside"	7 50
For inspection of steamer "Lakeside"	5 00
For inspection of steamer "Iola"	5 00
For inspection of steamer "Cynthia"	5 00
For inspection of steamer "Myrtis"	5 00
For inspection of steamer "Borneo"	5 00
For inspection of steamer "Virginia"	5 00
For inspection of steamer "McKinley"	5 00
For inspection of steamer "Buchanan"	5 00
For inspection of steamer "Italia"	5 00
For inspection of steamer "Russia"	5 00
For inspection of steamer "Don Quiote"	5 00
For inspection of steamer "Rome"	5 00
For inspection of steamer "Adirondack"	5 00
For inspection of steamer "Marie"	5 00
For inspection of steamer "May"	5 00
For inspection of steamer "Alida"	5 00

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For inspection of steamer "Beechnut"	\$12 50
For inspection of steamer "Winnifred"	12 50
For inspection of steamer "Thelma"	5 00
For inspection of steamer "W. H. Nealer"	7 50
For inspection of steamer "Annex"	7 50
For inspection of steamer "Thos. Miller, Jr."	7 50
For inspection of steamer "J. K. Averill"	10 00
For inspection of steamer "Chas. K. Pike"	7 50
For inspection of steamer "Waterford"	10 00
For inspection of steamer "Almira"	7 50
For inspection of steamer "Chas. C. Wing"	10 00
For inspection of steamer "Ruth"	5 00
For inspection of steamer "Tryton"	10 00
For inspection of steamer "Whitehall"	10 00
For inspection of steamer "Alice"	10 00
For inspection of steamer "Tuscarora"	12 50
For inspection of steamer "Oneonta"	7 50
For inspection of steamer "Killiquah"	10 00
For inspection of steamer "Lillian"	10 00
For inspection of steamer "Sagamore"	7 50
For inspection of steamer "Clearwater"	12 50
For inspection of steamer "Uncas"	10 00
For inspection of steamer "Nehanse"	12 50
For inspection of steamer "Mohegan"	7 50
For inspection of steamer "Myra"	5 00
For inspection of steamer "Minnow"	5 00
For inspection of steamer "C. M. White"	12 50
For inspection of steamer "D. Rightmeyer"	12 50
For inspection of steamer "O. F. Soule"	12 50
For inspection of steamer "E. E. Jordan"	12 50
For inspection of steamer "M. P. Brown"	12 50
For inspection of steamer "David Chapman"	12 50
Fine collected from Thomas Tuttle, master of steamboat "Venture" for violation of Navigation Law	25 00

\$4,028 50

Statement of proposals received and contracts awarded by the Superintendent of Public Works during the year 1916, pursuant to special acts of the Legislature

For making repairs to the dam at Tonawanda:

(Chapter 237, Laws of 1915)

Henry P. Burgard Co., Buffalo, N. Y.	\$30,276 80
John D. Rust, Buffalo, N. Y.	30,319 40
Chesley, Earl & Heimbach, Inc., Buffalo, N. Y.	31,999 33
Lathrop, Shea & Henwood Co., Buffalo, N. Y.	33,251 31
Walsh Construction Co., Davenport, Iowa	33,357 56
Lupfer & Remick, Buffalo, N. Y.	34,968 43

H. S. Kerbaugh, Inc., Buffalo, N. Y.....	\$35,623 09
Flood & Van Wirt Co., Hudson Falls, N. Y.....	37,113 51
Scott Brothers, Rome, N. Y.....	38,443 21
Frank L. Cohen, Buffalo, N. Y.....	38,985 58
Great Lakes Dredge & Dock Co., Buffalo, N. Y.....	43,398 16

Awarded to Henry P. Burgard Company.

For the construction of dykes, deepening and straightening channels, building of walls, culverts, etc., along the Allegany river and Olean creek at or near the city of Olean, N. Y.:

(Chapter 717, Laws of 1915)

James M. Hamilton & Co., Gardiner, N. Y.....	\$179,268 00
John Young, Syracuse, N. Y.....	211,696 50
The Central Dredging Co., Cleveland, Ohio.....	226,150 00
Walsh Construction Co., Davenport, Iowa.....	231,416 00
The R. T. Ford Co., Rochester, N. Y.....	259,668 76

Awarded to James M. Hamilton & Company.

For constructing a steel plate girder bridge over the Erie canal at Clinton street, in the village of Whitesboro:

(Chapter 704, Laws of 1915)

M. Fitzgerald, Hoosick Falls, N. Y.....	\$9,471 90
E. J. Cunningham, Utica, N. Y.....	11,038 00

Awarded to M. Fitzgerald.

For the improvement of the Chadakoin river, known as Chautauqua lake outlet, in the city of Jamestown, county of Chautauqua:

(Chapters 758 and 728, Laws of 1913 and 1915)

George L. Maltby, Jamestown.....	\$92,074 25
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Awarded to George L. Maltby.

For the construction of a foot bridge between the north and south walls of lock No. 3 on the Cayuga and Seneca canal at Seneca Falls:

(Chapter 700, Laws of 1915)

Lupfer & Remick, Buffalo, N. Y.....	\$4,388 10
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Awarded to Lupfer & Remick.

For the improvement of Three Mile Harbor in the county of Suffolk:

(Chapter 247, Laws of 1914)

J. S. Packard Dredging Co., Providence, Rhode Island.....	\$8,500 00
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Awarded to J. S. Packard Dredging Company.

For contract No. 2, Olean Flood Abatement work, providing for the construction of sewers, and the furnishing, erecting, testing and placing in operation pumping plants along the Allegany river and Olean creek at or near the city of Olean:

(Chapter 717, Laws of 1915)

Lord Construction Co., New York City.....	\$64,716 00
Jos. F. Leary Construction Co., Inc., Rochester, N. Y.....	77,099 20
Lupfer & Remick, Buffalo, N. Y.....	80,566 15

Awarded to Lord Construction Company.

For the improvement of Ellicott creek from its intersection with Tonawanda creek to a point opposite the southerly property line of the Eastern Lumber Co., a distance of approximately 4,800 feet:

(Chapter 624, Laws of 1913)

H. S. Kerbaugh, Inc., New York City.....	\$50,496 40
Great Lakes Dredge & Dock Company, Buffalo, N. Y.....	55,122 85

No award.

For furnishing tugs for towing and other purposes on completed sections of the Erie Barge canal:

(Chapter 255, Laws of 1915)

George D. Cooley, Troy, N. Y.....	\$1,095 00
W. P. Doran, Buffalo, N. Y.....	900 00
W. P. Doran, Buffalo, N. Y.....	1,000 00
O. A. Mullen, Troy, N. Y.....	1,020 00
Roger B. Kennedy, Rochester, N. Y.....	960 00
Bernard U. Mago, Tonawanda, N. Y.....	915 00
Bernard U. Mago, Tonawanda, N. Y.....	1,045 00
Frank L. Mago, North Tonawanda, N. Y.....	915 00
Frank L. Mago, North Tonawanda, N. Y.....	1,045 00
Ryan Elevator & Forwarding Co., Buffalo, N. Y.....	1,040 00
Christian Fusz & W. H. Ward, Lyons, N. Y.....	700 00
J. J. Foster, Little Falls, N. Y.....	800 00
E. W. Sutton, Buffalo, N. Y.....	900 00
Wm. F. Warren, Tonawanda, N. Y.....	950 00
Wm. F. Warren, Tonawanda, N. Y.....	1,000 00
Frank Roneker, Jr., Tonawanda, N. Y.....	940 00
Benjamin L. Cowles, Buffalo, N. Y.....	1,500 00
Ulster Davis, Rensselaer, N. Y.....	1,100 00

Contracts awarded as follows:

Bernard U. Mago,
 Frank L. Mago,
 O. A. Mullen,
 E. W. Sutton,
 Ryan Elevator & Forwarding Company,
 W. P. Doran,
 Christian Fusz & W. H. Ward.

LUMBER CONTRACTS

(Chapters 725 and 646, Laws of 1915 and 1916)

For furnishing timber and plank for use on Eastern Division:

H. V. Berry, Fort Plain, N. Y.....	\$11,958 10
G. Elias & Bro., Inc., Buffalo, N. Y.....	12,093 10

Awarded to H. V. Berry.

For furnishing timber and plank for use on Middle Division:

William J. Dowdle, Oswego, N. Y.....	\$17,656 00
G. Elias & Bro., Inc., Buffalo, N. Y.....	18,134 00
H. V. Berry, Fort Plain, N. Y. (informal) .....	.....

Awarded to William J. Dowdle.

For furnishing timber and plank for use on Western Division:

G. Elias & Bro., Inc., Buffalo, N. Y.....	\$20,685 50
William J. Dowdle, Oswego, N. Y.....	21,792 75
H. V. Berry, Fort Plain, N. Y. (informal) .....	.....

Awarded to G. Elias & Bro., Inc.

Statement of proposals received and contracts awarded by the Superintendent of Public Works during the year 1916, pursuant to Chapter 147, Laws of 1903 and amendments thereto, known as "Barge Canal Act"

Contract No. 73-A:

Great Lakes Dredge & Dock Co., Albany, N. Y.....	\$321,697 92
James Stewart & Co., Inc., New York City.....	358,414 60
Holler & Shepard, Rochester, N. Y.....	454,763 50
P. McGovern & Co., New York City.....	595,102 80
New York State Dredging Corporation, Rochester, N. Y.....	577,977 00

Awarded to Great Lakes Dredge & Dock Company.

For the construction of two connecting highways, Muck road to James street and Whitesboro street to Mill street in the city of Rome, Oneida county:

Harry A. Schaupp, Guilderland, N. Y.....	\$32,111 15
Bernard S. McCarey, Rome, N. Y.....	32,751 42
Walter S. Rae, Pittsburgh, Pa.....	34,943 00

Awarded to Harry A. Schaupp.

Contract No. 21-A:

Walsh Construction Co., Davenport, Iowa.....	\$384,928 69
E. W. Foley Contracting Corporation, New York City.....	389,414 10
H. S. Kerbaugh, Inc., Buffalo, N. Y.....	430,124 20
Scott Brothers, Rome, N. Y.....	431,740 00
The F. J. Mumm Contracting Co., Inc., Buffalo, N. Y.....	436,524 30

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I. M. Ludington's Sons, Inc., Rochester, N. Y.....	\$437,505 00
Cleveland & Sons Co., Brockport, N. Y.....	441,885 80
Larkin & Sangster, Buffalo, N. Y.....	492,125 00
P. McGovern & Co., New York City.....	647,725 70

Awarded to Walsh Construction Company.

Contract No. 29-A:

F. H. Wells, Corfu, N. Y.....	\$158,055 80
Eastover Construction Co., Utica, N. Y.....	186,434 00
Troy Public Works Co., Utica, N. Y.....	190,056 00
Grant Smith & Co. and Locher, Rome, N. Y.....	220,950 68

No award.

Contract No. 46-B:

Scott Brothers, Rome, N. Y.....	\$277,348 22
State Highway Construction Co., Beacon, N. Y.....	280,620 22
Henry P. Burgard, Buffalo, N. Y.....	283,776 72
Lord Construction Co., New York City.....	287,049 67
Cleveland & Sons Co., Brockport, N. Y.....	294,361 82
Larkin & Sangster, Buffalo, N. Y.....	296,511 67
Walsh Construction Co., Davenport, Iowa.....	297,148 22
MacArthur Brothers Co., New York City.....	307,677 37
Peter Keeler Building Co., Albany, N. Y.....	311,512 52
Lupfer & Remick, Buffalo, N. Y.....	323,634 47
Flood & Van Wirt Co., Hudson Falls, N. Y.....	346,366 49
Eastover Construction Co., Inc., Utica, N. Y.....	349,925 22
Myers & McWilliams, Pittsford, N. Y.....	457,418 17

Awarded to Scott Brothers.

Contract No. 122:

Thomas Leonard, Saratoga Springs, N. Y.....	\$56,615 00
Frank L. Cohen, Buffalo, N. Y.....	58,998 50
Chesley, Earl & Heimbach, Inc., Buffalo, N. Y.....	59,042 00
New York State Dredging Corporation, Rochester, N. Y.....	61,335 90
Lathrop, Shea & Henwood Co., Buffalo, N. Y.....	61,577 00
Flood & Van Wirt Co., Hudson Falls, N. Y.....	63,244 50
Walter S. Rae, Pittsburgh, Pa.....	63,457 70
Frank M. Skene, Rochester, N. Y.....	64,436 50
Troy Public Works Co., Utica, N. Y.....	64,509 50
Day & Zimmerman, Philadelphia, Pa.....	64,743 90
Peter Keeler Building Co., Albany, N. Y.....	64,754 35
Lupfer & Remick, Buffalo, N. Y.....	64,850 70
M. Fitzgerald, Hoosick Falls, N. Y.....	64,875 50
J. L. Richmond, Louisa, Ky.....	64,942 30
Walsh Construction Co., Davenport, Iowa.....	66,979 25
Eastover Construction Co., Utica, N. Y.....	67,228 50

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Lord Construction Co., New York City.....	\$68,751 00
Spaulding Construction Co., Suffield, Conn.....	67,895 00
Scott Brothers, Rome, N. Y.....	73,997 50
The Foundation Co., New York City.....	74,203 50

Awarded to Thomas Leonard.

Contract No. 63-A:

State Highway Construction Co., Beacon, N. Y.....	\$488,103 20
Lathrop, Shea & Henwood Co., Buffalo, N. Y.....	532,267 20
Scott Brothers, Rome, N. Y.....	587,791 70
R. T. Ford Co., Rochester, N. Y.....	543,006 10
Walsh Construction Co., Davenport, Iowa.....	620,579 44
Myers & McWilliams, Pittsford, N. Y.....	611,068 60

Awarded to State Highway Construction Company.

Contract No. 47-A:

The Central Dredging Co., Cleveland, Ohio.....	\$728,034 30
Great Lakes Dredge & Dock Co., Albany, N. Y.....	756,353 50
Henry P. Burgard, Buffalo, N. Y.....	765,288 00
Sherman-Stalter Co., Lyons, N. Y.....	828,396 50
Cleveland & Sons Co., Brockport, N. Y.....	888,789 75
Maryland Dredging & Contracting Co., Baltimore, Md.....	963,727 30
James Stewart & Co., New York City.....	1,001,179 00
Atlantic, Gulf & Pacific Co., New York City.....	1,132,851 80

Awarded to the Central Dredging Company.

Contract No. 29-A:

Eastover Construction Co., Inc., Utica, N. Y.....	\$185,106 50
Troy Public Works Co., Utica, N. Y.....	190,085 50
Scott Brothers, Rome, N. Y.....	191,181 00

Awarded to Eastover Construction Company, Inc.

Contract No. 130:

Great Lakes Dredge & Dock Co., Albany, N. Y.....	\$7,140 00
J. P. Randerson, Albany, N. Y.....	7,600 00
J. R. Criswell, Mechanicville, N. Y.....	8,600 00
Troy Public Works Co., Utica, N. Y.....	10,000 00

Awarded to Great Lakes Dredge & Dock Company.

Contract No. 131:

Spaulding Construction Co., Suffield, Conn.....	\$29,734 00
Walter S. Rae, Pittsburgh, Pa.....	31,229 50
Thomas Leonard, Saratoga Springs, N. Y.....	31,274 50
Flood & Van Wirt Co., Hudson Falls, N. Y.....	31,597 25

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M. Fitzgerald, Hoosick Falls, N. Y.....	\$32,328 00
Troy Public Works Co., Utica, N. Y.....	32,603 50
Great Lakes Dredge & Dock Co., Albany, N. Y.....	33,900 00
Walsh Construction Co., Davenport, Iowa.....	35,867 00

Awarded to Spaulding Construction Company.

Contract No. 23-A:

H. S. Kerbaugh, Inc., New York City.....	\$630,568 42
Walsh Construction Co., Davenport, Iowa.....	646,160 70
R. T. Ford Co., Rochester, N. Y.....	651,120 42
The Combined Construction Co., Rochester, N. Y.....	661,143 92

Awarded to H. S. Kerbaugh, Inc.

Contract for the improvement of Forts Ferry highway:

John Shaw & Irving L. Taylor, Waterford, N. Y.....	\$3,210 50
Greece Construction Co., Rochester, N. Y.....	3,532 00
Frank Holohan, Waterford, N. Y.....	3,653 70
Holler & Shepard, Rochester, N. Y.....	3,673 00
William R. Kimmey, Albany, N. Y.....	4,228 50

Awarded to John Shaw & Irving L. Taylor.

Contract No. 27-B:

John J. Farrell, Jr., Schuylerville, N. Y.....	\$6,845 00
Greece Construction Co., Rochester, N. Y.....	7,698 00
E. Brown Baker, Herkimer, N. Y.....	7,745 00
LaPorte & Hall, Mechanicville, N. Y.....	7,907 00
Troy Public Works Co., Utica, N. Y.....	7,922 50
Flood & Van Wirt Co., Hudson Falls, N. Y.....	8,240 00
Holler & Shepard, Rochester, N. Y.....	8,285 00
Cleveland & Sons Co., Brockport, N. Y.....	9,005 00
Fulton Engineering Co., Inc., Walton, N. Y.....	9,185 00

Awarded to John J. Farrell, Jr.

Contract No. 128:

Holler & Shepard, Rochester, N. Y.....	\$76,486 70
Troy Public Works Co., Utica, N. Y.....	78,826 50
Great Lakes Dredge & Dock Co., Albany, N. Y.....	79,748 50
Flood & Van Wirt Co., Hudson Falls, N. Y.....	81,906 50
Lupfer & Remick, Buffalo, N. Y.....	84,495 60
Frank L. Cohen, Buffalo, N. Y.....	88,065 50

Awarded to Holler & Shepard.

Contract No. 129:

The Foundation Co., New York City.....	\$87,390 80
Frank L. Cohen, Buffalo, N. Y.....	89,451 50

Lupfer & Remick, Buffalo, N. Y.....	\$96,623 20
Charles Fath & Co., Cleveland, Ohio.....	97,839 20
Troy Public Works Co., Utica, N. Y.....	98,208 10
E. Brown Baker, Herkimer, N. Y.....	107,710 00

Awarded to the Foundation Company.

Contract No. 59-A:

P. H. Murray, Rochester, N. Y.....	\$110,689 45
L. H. Brotsch, Rochester, N. Y.....	114,437 30
The R. T. Ford Company, Rochester, N. Y.....	115,331 66
Schroeder-Hicks Construction Co., Rochester, N. Y.....	115,534 65
Combined Construction Co., Rochester, N. Y.....	121,463 20
James F. Leary Construction Co., Rochester, N. Y.....	123,975 46
Whitmore, Rauber & Vicinus, Inc., Rochester, N. Y.....	126,958 20
Michael H. Ripton, Rochester, N. Y.....	136,375 88

Awarded to P. H. Murray.

Contract No. 72-B:

James Stewart & Co., Inc., New York City.....	\$108,540 00
Great Lakes Dredge & Dock Co., Albany, N. Y.....	144,050 00
Troy Public Works Co., Utica, N. Y.....	160,465 00
Frank L. Cohen, Buffalo, N. Y.....	160,800 00
E. Brown Baker, Herkimer, N. Y.....	160,800 00
William Franklin, Buffalo, N. Y.....	166,830 00

Awarded to James Stewart & Co., Inc.

Contract No. 135:

Great Lakes Dredge & Dock Co., Albany, N. Y.....	\$57,038 00
J. A. LaPorte, Mechanicville, N. Y.....	72,048 00
A. A. Parker, Waterford, N. Y.....	64,543 00
Houston Barnard, Rochester, N. Y.....	67,545 00

Awarded to Great Lakes Dredge & Dock Company.

Contract No. 99:

Larkin & Sangster, Buffalo, N. Y.....	\$115,980 75
Lupfer & Remick, Buffalo, N. Y.....	116,800 64

Awarded to Larkin & Sangster.

Contract No. 2-G:

A. A. Parker, Waterford, N. Y.....	\$10,779 12
Marks & Popp, Brooklyn, N. Y.....	11,275 00
Davis & Allen, Albany, N. Y.....	11,160 00
Lord Construction Co., New York City.....	13,876 00

Awarded to A. A. Parker.

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Contract No. 44-A:

Scott Brothers, Rome, N. Y.....	\$52,486 00
Grant Smith & Co. & Lochner, Rome, N. Y.....	52,486 00
Joseph F. Stabell Co., Buffalo, N. Y.....	54,197 50

Awarded to Scott Brothers.

Contract No. 132:

Lupfer & Remick, Buffalo, N. Y.....	\$72,185 20
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Awarded to Lupfer & Remick upon reducing their proposal to \$70,330.20.

Contract No. 133:

Morrison & Quinn, Inc., Rochester, N. Y.....	\$48,910 00
E. Brown Baker, Herkimer, N. Y.....	52,116 40

Awarded to Morrison & Queen upon their reducing their proposal to \$48,638.80.

Contract No. 59:

MacArthur Brothers Co., New York City.....	\$1,596,788 91
Maryland Dredging & Contracting Co., Baltimore, Md.....	1,864,315 56
Larkin & Sangster, Buffalo, N. Y.....	1,833,862 13

Awarded to MacArthur Brothers Company.

Contract No. 81:

Chesley, Earl & Heimbach, Inc., Buffalo, N. Y.....	\$53,998 90
Scott Brothers, Rome, N. Y.....	54,317 28
Hydraulic Construction Co., Watertown, N. Y.....	57,905 90
Charles Keihm, Utica, N. Y.....	59,766 40
Grant Smith & Co. & Locher, Rome, N. Y.....	59,833 90
Frank L. Cohen, Buffalo, N. Y.....	61,106 40
Dale Engineering Co., Utica, N. Y.....	64,489 40

Awarded to Chesley, Earl & Heimbach, Inc.

Contract No. 137:

J. A. LaPorte, Mechanicville, N. Y.....	\$22,650 00
A. A. Parker, Waterford, N. Y.....	22,980 60
H. S. Kerbaugh, Inc., Buffalo, N. Y.....	23,823 00
E. Brown Baker, Herkimer, N. Y.....	26,503 00
Chesley, Earl & Heimbach, Inc., Buffalo, N. Y.....	27,812 00
Great Lakes Dredge & Dock Co., Albany, N. Y.....	33,358 00

Awarded to J. A. LaPorte.

Contract No. 91-A:

Lord Construction Co., New York City.....	\$5,930 00
Lupfer & Remick, Buffalo, N. Y.....	6,605 00

Awarded to Lord Construction Company.

Contract No. 19-A:

H. S. Kerbaugh, Inc., Buffalo, N. Y.....	\$169,759 00
Great Lakes Dredge & Dock Co., Buffalo, N. Y.....	216,063 00
Eastover Construction Co., Utica, N. Y.....	218,227 50

Awarded to H. S. Kerbaugh, Inc.

Contract No. 139:

H. S. Kerbaugh, Inc., Buffalo, N. Y.....	\$25,912 00
James Stewart & Co., Inc., New York City.....	29,980 50

Awarded to H. S. Kerbaugh, Inc.

Contract No. 140:

Holler & Shepard, Rochester, N. Y.....	\$4,559 00
Farrell & McEntee, Fort Edward, N. Y.....	4,565 00
William R. Kimmey, Albany, N. Y.....	4,700 00
John E. Byron & Co., Cohoes, N. Y.....	5,089 90
W. H. Allen, Mechanicville, N. Y.....	5,246 00
Shaw & Taylor, Waterford, N. Y.....	5,608 50

Awarded to Holler & Shepard.

Contract No. 30-A:

E. Brown Baker, Herkimer, N. Y.....	\$128,182 00
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Awarded to E. Brown Baker.

Contract No. 98:

Tift Construction Co., Inc., Buffalo, N. Y.....	\$82,276 25
Lupfer & Remick, Buffalo, N. Y.....	84,788 35
H. S. Kerbaugh, Inc., New York City.....	99,111 60

Awarded to Tift Construction Co., Inc.

Contract No. 150:

Brown & Lowe Co., Schenectady, N. Y.....	\$21,780 00
Holler & Shepard, Fort Edward, N. Y.....	22,550 00
E. Brown Baker, Herkimer, N. Y.....	22,600 00

Awarded to Brown & Lowe Company.

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Contract No. 145:

Horseheads Construction Co., Horseheads, N. Y.....	\$3,978 00
Brown & Lowe Co., Schenectady, N. Y.....	4,912 00
S. M. Bishop, Schenectady, N. Y.....	4,292 00
Holler & Shepard, Fort Edward, N. Y.....	4,380 60
Byron, Foreman & Riggs, Inc., Cohoes, N. Y.....	4,492 00
E. Brown Baker, Herkimer, N. Y.....	4,939 56
Logan Construction Co., Inc., New York City.....	4,941 00
J. L. Richmond, Richfield Springs, N. Y.....	4,942 00
M. Fitzgerald, Hoosick Falls, N. Y.....	5,974 50

Awarded to Horseheads Construction Company.

Contract No. 49-A:

No bids received.

Statement of proposals received and contracts awarded by the Superintendent of Public Works during the year 1916, pursuant to chapter 391, Laws of 1909, for the improvement of the Cayuga and Seneca canal

Contract No. A-1:

The Sherman-Stalter Co., Lyons, N. Y.....	\$25,831 05
E. Brown Baker, Herkimer, N. Y.....	27,946 80
Larkin & Sangster, Buffalo, N. Y.....	28,719 90
Walsh Construction Co., Davenport, Iowa.....	29,272 30

Awarded to The Sherman-Stalter Company.

Statement of proposals received and contracts awarded by the Superintendent of Public Works during the year 1916, pursuant to chapter 746, Laws of 1911, known as "Barge Canal Terminal Act"

Contract No. 51:

Fred H. Rhodney, Albion, N. Y.....	\$5,325 00
Charles A. Ingersoll, Medina, N. Y.....	5,579 60
F. H. Wells, Corfu, N. Y.....	5,766 50
The F. J. Mumm Contracting Co., Inc., Buffalo, N. Y.....	5,804 55
Morrison & Quinn, Inc., Rochester, N. Y.....	5,825 00
I. M. Ludington's Sons, Inc., Rochester, N. Y.....	5,960 00
Hammond-Tracy Construction Co., Inc., Middleport, N. Y....	6,000 00
Harradine Bros. Co., Inc., Spencerport, N. Y.....	6,009 00
Wm. J. Mulhern, Brockport, N. Y.....	6,087 00
John J. Fitzpatrick & Sons, Plattsburgh, N. Y.....	6,165 25
Frank M. Skene, Rochester, N. Y.....	6,200 50
Thomas Leonard, Saratoga Springs, N. Y.....	6,228 25
Kelly & Wheeler, Buffalo, N. Y.....	6,464 65
S. M. Bishop, Schenectady, N. Y.....	6,558 50
M. Fitzgerald, Hoosick Falls, N. Y.....	6,749 00
Flood & Van Wirt Co., Hudson Falls, N. Y.....	6,785 75
Paolo Sanucci, Medina, N. Y.....	7,134 00
John D. Dolan Contracting Co., New York City.....	7,301 20

Awarded to Fred H. Rhodney.

Contract No. 30:

Henry P. Burgard, Buffalo, N. Y.....	\$90,984 00
H. S. Kerbaugh, Inc., Buffalo, N. Y.....	91,529 07
T. A. Gillespie Co., Pittsburgh, Pa.....	91,839 95
Morrison & Quinn, Inc., Rochester, N. Y.....	92,957 75
Larkin & Sangster, Buffalo, N. Y.....	93,164 75
Walsh Construction Co., Davenport, Iowa.....	94,185 50
Scott Brothers, Rome, N. Y.....	95,566 75
Lupfer & Remick, Buffalo, N. Y.....	98,899 10
G. O. Hodgson, Fulton, N. Y.....	99,434 00
Frank L. Cohen, Buffalo, N. Y.....	100,028 50
Neilans Brothers Co., Buffalo, N. Y.....	100,484 75
Day & Zimmerman, Philadelphia, Pa.....	104,508 50
Troy Public Works Co., Utica, N. Y.....	113,018 00
Eastover Construction Co., Inc., Utica, N. Y.....	123,554 85

Awarded to Henry P. Burgard.

Contract No. 52:

Kaufman & Garcey, New York City.....	\$91,317 75
George W. Rogers Co., Inc., New York City.....	93,189 85

Awarded to Kaufman & Garcey.

Contract No. 31:

Lupfer & Remick, Buffalo, N. Y.....	\$51,653 80
Chesley, Earl & Heimbach, Inc., Buffalo, N. Y.....	51,923 00
J. A. La Porte, Mechanicville, N. Y.....	53,426 00
State Highway Construction Co., Beacon, N. Y.....	55,495 00
E. Brown Baker, Herkimer, N. Y.....	56,725 00
Lathrop, Shea & Henwood Co., Buffalo, N. Y.....	59,675 00
Walsh Construction Co., Davenport, Iowa.....	61,874 60

Awarded to Lupfer & Remick.

Contract No. 48:

Michael H. Ripton, Rochester, N. Y.....	\$93,828 00
Chesley, Earl & Heimbach, Inc., Buffalo, N. Y.....	97,968 00
Whitmore, Rauber & Vicinus, Inc., Rochester, N. Y.....	98,381 60
Dale Engineering Co., Utica, N. Y.....	98,814 00
I. M. Ludington's Sons, Inc., Rochester, N. Y.....	99,683 00
Frank L. Cohen, Buffalo, N. Y.....	100,255 50
The R. T. Ford Co., Rochester, N. Y.....	100,514 55
Larkin & Sangster, Buffalo, N. Y.....	104,273 20
State Highway Construction Co., Beacon, N. Y.....	105,036 50
Cleveland & Sons Co., Brockport, N. Y.....	106,184 80
Great Lakes Dredge & Dock Co., Buffalo, N. Y.....	128,599 20

Awarded to Michael H. Ripton.

136 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

Contract No. 201:
 Peter Keeler Building Co., Albany, N. Y..... \$25,688 92

No award.

Contract No. 19:
 Mason, Hilton & Co., New York City..... \$207,393 00
 Riverside Contracting Co., New York City..... 219,216 70
 E. Brown Baker, Herkimer, N. Y..... 227,829 01
 The Phoenix Construction Co., New York City..... 250,610 20

Awarded to Mason, Hilton & Company.

Contract No. 26:
 John E. Byron & Co., Cohoes, N. Y..... \$55,678 50
 A. A. Parker, Waterford, N. Y..... 59,542 60
 E. Brown Baker, Herkimer, N. Y..... 59,600 00
 Great Lakes Dredge & Dock Co., Albany, N. Y..... 59,900 00
 New York State Dredging Corporation, Rochester, N. Y..... 62,654 50

Awarded to John E. Byron & Company.

Contract No. 53:
 Walsh Construction Co., Davenport, Iowa..... \$532,584 00
 Larkin & Sangster, Buffalo, N. Y..... 534,615 00
 H. S. Kerbaugh, Inc., Buffalo, N. Y..... 554,500 00
 Great Lakes Dredge & Dock Co., Buffalo, N. Y..... 562,480 00

Awarded to Walsh Construction Company.

Contract No. 202:
 J. A. La Porte, Canajoharie, N. Y..... — \$74,948 08
 Morris Kantrowitz, Albany, N. Y..... 84,330 30

Contract No. 201:
 J. A. La Porte, Canajoharie, N. Y..... \$65,174 85
 Morris Kantrowitz, Albany, N. Y..... 75,432 20

Awarded to J. A. La Porte.

Contract No. 203:
 Collins Brothers, Mechanicville, N. Y..... \$3,244 55
 Wm. R. Kimmey, Albany, N. Y..... 3,280 00
 J. A. La Porte, Canajoharie, N. Y..... 3,395 00
 John I. Ramer, Albany, N. Y..... 3,492 35
 Byron, Foreman & Riggs, Inc., Cohoes, N. Y..... 3,493 00
 E. K. Thomas, Mechanicville, N. Y..... 3,495 44
 Thomas Kennedy, Cohoes, N. Y..... 3,641 54
 Farrell & McEntee, Fort Edward, N. Y..... 3,945 00

Morris Kantrowitz, Albany, N. Y.....	\$3,955 25
Anton Gander & Sons, Albany, N. Y.....	4,330 50
Nial Brothers Construction Co., Troy, N. Y.....	5,253 50
James T. Young, Watervliet, N. Y. (informal).....	.....
John J. Fitzpatrick & Sons, Plattsburgh, N. Y. (informal) ..	.....

Awarded to Collins Brothers.

Contract No. 101:

E. Brown Baker, Herkimer, N. Y.....	\$5,140 40
Lupfer & Remick, Buffalo, N. Y.....	5,371 40

Awarded to E. Brown Baker.

SUPERINTENDENT OF PUBLIC WORKS.

SUPERINTENDENTS.	Residences.	Appointed.
Benjamin S. W. Clark	Sing Sing	Jan. 30, 1878
Silas B. Dutcher	Brooklyn	Jan. 16, 1880
James Shanahan	Tribes Hill	Jan. 16, 1883
Edward Hannan	Tro'	Dec. 16, 1889
George W. Aldridge	Rochester	Jan. 2, 1895
John N. Partridge	Brooklyn	Jan. 16, 1899
Charles S. Boyd	New York	Dec. 20, 1901
N. V. V. Franchot	Olean	Jan. 4, 1905
Frederick C. Stevens	Attica	Jan. 14, 1907
Charles E. Treman	Ithaca	Jan. 4, 1911
Duncan W. Peck	Syracuse	Jan. 16, 1912
William W. Wotherspoon	Utica	Jan. 6, 1915

DEPUTY SUPERINTENDENTS.

Patrick J. McWeeney	Herkimer	Oct. 6, 1896
Elon H. Hooker	New York	Feb. 1, 1899
Winslow M. Mead	Rochester	Aug. 25, 1901
Wm. J. Morrissey	Saratoga Springs ..	Mar. 28, 1912
Henry D. Alexander	Albany	Jan. 24, 1915

ASSISTANT SUPERINTENDENTS.

Eastern Division.....W. Seward Hamlin, Glenville
 Middle Division.....David S. Burleigh, Phoenix
 Western Division.....Jacob Allmeroth, Rochester

ROSTER OF EMPLOYEES IN THE OFFICE OF SUPER-
INTENDENT OF PUBLIC WORKS.

Assistant to Deputy and Chief Clerk.....Alfred M. O'Neil
 Private Secretary.....J. Frank O'Marah
 Financial Clerk.....H. M. Hulsapple
 Assistant Financial Clerk.....Edward L. Walsh
 Stenographer and Clerk.....J. Wilbur Barnes
 Clerk of Statistics.....John E. Winne
 Stenographer and Clerk.....Jessie E. Holmes
 Index Clerk.....F. S. Harder
 Clerk.....Frank Langwig

BOUNDARIES OF DIVISIONS AND SECTIONS OF THE CANALS.

The following are the boundaries of the divisions of the canals as fixed by the Canal Board, August 16, 1900:

EASTERN DIVISION.

Erie canal.—From the south end of the Albany basin to the easterly line of Oneida county; Champlain canal, and their tributary feeders.

MIDDLE DIVISION.

Erie canal.—From the easterly line of Oneida county to the easterly line of Wayne county; Black River canal; Oswego canal; Cayuga and Seneca canal, and their tributary feeders.

WESTERN DIVISION.

Erie canal.—From the easterly line of Wayne county through the city of Buffalo, including its tributary feeders.

The boundaries of the sections of the canals have been fixed as given below:

ERIE CANAL.

Section 1, Erie canal.—From the south end of the Albany basin to the west end of lower Mohawk aqueduct, including Watervliet basin, and the Watervliet and Port Schuyler sidecuts; also the Champlain canal from its junction with the Erie canal to a point 200 feet north of the Cohoes guard-lock.

Section 2, Erie canal.—From the west end of the lower Mohawk aqueduct to the head of lock 27.

Section 3, Erie canal.—From the head of lock 27 to the head of lock 34.

Section 4, Erie canal.—From the head of lock 34 to the easterly line of Oneida county.

Section 5, Erie canal.—From the easterly line of Oneida county to the westerly side of Peterboro street bridge in the village of Canastota.

Section 6, Erie canal.—From the westerly side of Peterboro street bridge in the village of Canastota to and including the

Camillus feeder. Also that portion of the Oswego canal from its junction with the Erie canal in the city of Syracuse to and including lock No. 4 known as Mud lock, on the Liverpool level.

Section 7, Erie canal.—From the westerly side of Camillus feeder to the easterly line of Wayne county.

Section 8, Erie canal.—From the easterly to the westerly line of Wayne county.

Section 9, Erie canal.—From the westerly line of Wayne county to the westerly line of Monroe county.

Section 10, Erie canal.—From the westerly line of Monroe county to the head of the guard-lock west of Lockport.

Section 11, Erie canal.—From the head of the guard-lock west of Lockport, through the city of Buffalo, including Black Rock harbor, Erie and Ohio basins and the Clark and Skinner canal.

CHAMPLAIN CANAL.

Section 1, Champlain canal.—From a point 200 feet north of Cohoes guard-lock to the foot of lock 11, including the Troy sloop-lock and dam and the pond above.

Section 2, Champlain canal.—From the foot of lock 11 to the north side of waste-weir at Dunham's Basin; also, Glens Falls feeder, the feeder dam and pond above.

Section 3, Champlain canal.—From north side of the waste-weir at Dunham's Basin to Lake Champlain.

BLACK RIVER CANAL.

Section 1, Black River canal.—From the junction of the Black River canal with the Erie canal to the foot of lock 71, at Boonville; the feeder from Boonville to Forestport; the Black River above the dam at Forestport, including the dam; also all the reservoirs and feeders tributary to the canal and feeder as described above.

Section 2, Black River canal.—From the foot of lock 71, at Boonville, to Black River, at Lyons Falls; the Black River improvement from Lyons Falls to Carthage, including the dam; also Moose river improvement.

OSWEGO CANAL.

Oswego canal.—From lock No. 4, known as Mud lock, through Oswego, including the Seneca river towing path, the Baldwinsville canal and the Oneida river improvement.

CAYUGA AND SENECA CANAL.

Cayuga and Seneca sections, Cayuga and Seneca canal.—From Montezuma to Geneva, with spur from Mud lock to Cayuga lake.

EASTERN DIVISION

REPORT OF THE ASSISTANT SUPERINTENDENT OF PUBLIC WORKS.

OFFICE OF THE
ASSISTANT SUPERINTENDENT OF PUBLIC WORKS,
EASTERN DIVISION OF THE CANALS,

SCHENECTADY, N. Y., *December 31, 1916.*

Hon. W. W. WOTHERSPOON, *Superintendent of Public Works,*
Capitol, Albany, N. Y.:

SIR.—I herewith submit the report of the Eastern Division of the canals, for the nine months, October 1, 1915, to June 30, 1916, both inclusive.

This division comprises that portion of the Erie canal extending from Albany to the east line of Oneida county, and the entire Champlain canal from Waterford to Whitehall, including the Glens Falls feeder.

On the Erie section of this division, the Barge canal has been in operation during the past season from Waterford to Jacksonburg (old Erie Lock No. 41), from which point the old canal has been used to the westerly end of the division.

On the Champlain section of the division, the Barge canal has been in operation during the past season for the entire distance, Waterford to Whitehall.

Navigation opened on both the Erie and Champlain canals on May 15, 1916, and closed December 1. There were no serious delays to navigation on either canal during the season. Navigation on the Champlain canal was, however, somewhat hindered during the opening weeks by flood conditions in the Hudson river, and later by the discovery of uncharted bars in the vicinity of Barge lock No. 5, Schuylerville. These difficulties were overcome promptly when called to the attention of the contractor. State

Dredge No. 1 also rendered valuable assistance in clearing the channel below Lock No. 5. The department also engaged a tug to assist the boatmen in navigating this new channel.

Navigation on the Erie canal was interrupted for seventy-two hours at Little Falls, caused by a leak in the canal wall. This leak developed on July 10, navigation being resumed on July 14. There was also a delay of twenty-four hours to navigation due to the sinking of the coal boat "Bertha Agnes" in the jaws of Lock No. 13, at Yosts.

RECOMMENDATIONS.

Offices for the section superintendent have been constructed on the terminal at Herkimer for the superintendent of Section No. 4, Erie; and on the terminal at Mechanicville for the superintendent of Section No. 1, Champlain canal. It is my recommendation that this work be continued and that offices for the superintendents of Sections Nos. 3 and 2, Erie, be constructed on the Barge terminals at Canajoharie and Schenectady, there being excellent harbor facilities for the storage of boats at both of these locations.

The work of removing bridges spanning portions of the abandoned canal should be continued. This is especially true when we consider that many such bridges are called upon to carry traffic far in excess of their estimated capacity.

On the Erie canal I believe the services of one lockmaster can be dispensed with, the lockmaster at Waterford taking care of Locks Nos. 2 to 7 inclusive, and the lockmaster stationed at Amsterdam taking care of Lock No. 8 at Scotia, in addition to those now under his supervision.

I would recommend the construction of a dry dock on the Erie canal at Little Falls, adjacent to Barge Lock No. 17, of sufficient size to handle the barges which will be constructed for operation on the new canal. If necessary, State aid should be given private capital with a view of bringing such a dock to early completion and operation.

Below Lock No. 3 at Waterford, there is also ample space which could be developed at reasonable cost into a first-class place for the dry-winter storage of boats, there being plenty of room here for private boats, as well as all department craft.

The Eastern Division dredging fleet rendered valuable service during the past year, but these dredges having been designed for service in a seven-foot canal, it is certain that the time is not now far distant when they will become obsolete; therefore, I believe early steps should be taken toward replacing them with larger and more powerful equipment.

EQUIPMENT.

There has been added to the department's equipment during the past year a ten-inch electrically driven pump, which has been installed on a State scow with necessary cabins, platforms and other equipment, so that the Eastern Division is now in a position to promptly unwater any of the new Barge locks should an emergency require it during the season of navigation.

CONCLUSION.

In closing this report, I desire to express my sincere appreciation of the undivided support and service given me by the rank and file of the Division.

GENERAL IMPROVEMENTS ON THE EASTERN DIVISION OF CANALS FROM JANUARY 1, 1916, TO JANUARY 1, 1917.

EASTERN DIVISION — GENERAL.

- At the State shops, Cohoes, there has been manufactured:
- 12 toilet houses for Barge canal locks.
 - 292 barrel buoys with iron cages for Barge canal.
 - 1 derrick for Troy terminal, and building over hoister.
 - 2 tumble gates for canal at Waterford.
 - 1 derrick and cabins for electric pump boat.
 - 190 cabinet door latches.
 - 142 stake lights, with iron cages, for Barge canal.
 - 26 lock shovels (large) for Barge locks.
 - 200 scaffold irons for use in painting Barge structures.
 - 17 row boats.
 - 4 lock rakes (large), for Barge locks.
 - 61 flag poles for Barge locks.
 - 10 lock gates, complete, for old canals.
 - 3 storm houses for Barge canal.
 - 1 waste-weir gate and hoist for Schuylerville terminal.

- 1 Barge lock gate (wood, temporary).
- 70 warning signs for Barge locks.
- 42 window and door screens for Barge canal buildings.

The property of the State at Cohoes has been improved by the construction of 350 feet of new fence with iron posts, and a concrete sidewalk in front of the shops. Also, the shop buildings and sheds have been painted where required.

Section No. 1, Erie Canal

Old canal bridges at Fifth street, Waterford, and Port Schuyler were thoroughly overhauled and repaired, needle beams replaced, and the bridges replanked.

A coffer dam was placed and a new concrete feeder constructed at Barge Lock No. 3, Waterford flight.

Seven hundred and thirty-five feet of wire fence has been placed along State property at Barge Lock No. 2, Waterford.

New tool and store shed has been constructed at Erie Barge Lock No. 5.

All Barge locks, bridges and iron structures, fenders, etc., have been painted.

Bridge No. 27, White street, city of Cohoes, has been painted.

Bridge No. 25, Alexander street, city of Cohoes, has been removed and grade crossings constructed.

The channel between the Cohoes and Watervliet basins has been cleaned of all debris and deepened.

The feeder leading to pulp mill below Lock No. 2, old Champlain canal, Cohoes, has been repaired and dredged out.

Section No. 2, Erie Canal.

Nine (9) highway bridges have been removed and grade crossings constructed, four of these spanning the canal and carrying the much-traveled Schenectady-Pattersonville highway.

Seven (7) farm bridges have been closed to traffic; and all other bridges open to traffic have been kept in good repair.

Barge Locks Nos. 7 and 9 have been painted.

Lock gates at old Erie Lock No. 25 were dropped into the canal and a foot bridge constructed to safeguard the public.

Ice gorges, formed during the spring freshet at Scotia, The Knolls, Crescent and Barge Lock No. 7, were dynamited by the

department forces, relieving flood conditions in the city of Schenectady.

A heavy guard rail was placed along Aqueduct No. 2, at Rexford, to safe-guard the public.

Lock shanties have been removed from old Erie Locks Nos. 26 and 27, and re-constructed into a storehouse at Barge Lock No. 10, Cranesville.

All red barrel buoys have been painted one coat above the water line.

One hundred and twenty anchor blocks and counter weights for buoys have been constructed.

Section No. 3, Erie Canal.

One hundred and eighty-eight anchor blocks and counter weights for buoys have been constructed.

Gates and uprights on Movable Dams Nos. 7, 8 and 11, lock gates and metal work at Locks Nos. 11 and 12, and the upper gates at Lock No. 16 have been painted.

The guard gates at Indian Castle have been painted.

The highway bridge across Mohawk river at Canajoharie has been painted.

Old Erie canal bridges Nos. 82, 92 and 94 have been removed and crossings constructed at grade.

Bridges Nos. 95, 96, 97 and 98 have been taken down and the material in them removed to the State shop, Fultonville.

Ditching in bed of old canal at Fort Plain, Canajoharie, Sprakers, Fultonville, Fort Hunter and Amsterdam has been done to drain pools of stagnant water.

Guard rails at the Fort Plain, Fonda and Amsterdam terminals have been repaired, the same having been more or less damaged by high water and ice during spring freshets.

All other canal bridges have been replanked, new needles placed and other repairs made as necessary.

The carpenter scow has been thoroughly overhauled above the water line, and a substantial derrick constructed for use on same in handling buoys.

Section No. 4, Erie Canal.

The General Herkimer farm bridge has been taken down and a grade crossing constructed.

Portions of Barge Lock No. 17 and the guard gates at Little Falls have been painted, also guard rails.

The guard gates at Herkimer, the Ilion lift bridge, the Ilion Barge canal bridge, Frankfort and East Schuyler Barge bridges have been painted.

The grounds around Locks Nos. 17 and 18 have been graded and cleaned up.

The bridges at Mohawk street, Mohawk, the lift bridge at Ilion and Bridge No. 157 have been overhauled and replanked.

A life line has been placed along the retaining wall above the water line from Lock No. 17 to the guard gates, at Little Falls.

Approximately six miles of the towing path has been scraped, gravelled and cross-ditched, beginning at Lock No. 43 and extending westerly to the Oneida-Herkimer county line.

The creek under the Ilion aqueduct, both up and down the stream from the aqueduct, has been cleaned.

Fulmer creek, village of Mohawk, has been cleaned out and the channel straightened.

A new office building has been constructed on the terminal at Herkimer for the use of the section superintendent.

A concrete sidewalk has been constructed on the approaches to Bridge No. 158, Frankfort.

Section No. 1, Champlain Canal.

Four hundred concrete anchor blocks and counterweights have been constructed for use in connection with buoys.

Barge Locks Nos. 1, 2, 3, 4 and 5 and the Barge canal bridges at Locks Nos. 2 and 4, and at Schuylerville, have been painted.

Fifteen (15) old Champlain canal bridges, including the lift bridge at Mechanicville, have been removed and grade crossings constructed with culverts to drain the canal.

Old Champlain canal bridges Nos. 11 and 57 have been rebuilt, and other highway bridges, including the bridge spanning the Hud-

son river at Northumberland, have been thoroughly repaired, replanked and new needle beams placed where necessary.

Two new tumble gates have been installed at Waterford in the old canal for the further protection of Barge navigation.

The grounds around the different Barge canal locks have been graded and cleaned up.

About 6,000 lineal feet of 12" x 14" timber have been taken from Crescent Aqueduct No. 1, and constructed into a guide boom at Barge Lock No. 2, fastened to cribs, thus making a continuous boom in front of cribs on both east and west approach to the lock about 1,200 feet long.

The docking at the Waterford swing bridge to old Champlain canal Lock No. 4, has been repaired and fill made back of same.

Several culverts have been opened in order to drain stagnant pools of water in the old canal, and the waste-weirs at Bemis Heights, Stillwater and Mechanicville removed.

The Taintor gates at Barge Lock No. 1 have been repaired.

Section No. 2, Champlain Canal.

Under Bridge No. 8, Glens Falls feeder, for a distance of 125 lineal feet, a concrete wall has been constructed, and the bottom of feeder covered with six inches of concrete to stop leaks which have damaged the property of the Imperial Wall Paper Company.

One hundred lineal feet of towing-path wall north of Bridge No. 13, Glens Falls feeder, have been constructed.

A leak in the Fort Edward basin, causing damage to property of C. W. Bowtelle, has been repaired.

Five (5) bridges spanning the abandoned canal have been removed and grade crossings constructed.

The ditches on the flat land between the Glens Falls feeder and the river road north of Hudson Falls have been cleaned out.

The old canal from Fort Edward to Northumberland has been ditched and stagnant pools of water drained.

The metal parts of Barge Locks Nos. 6, 7 and 8, have been painted, also the guard gate at Crocker's reef.

All Barge canal bridges on this section have been scraped and painted. Other bridges have been replanked, and new needle beams placed where necessary.

The ditch, east of Fort Edward, and subject of complaint by the Fort Edward Brewing Company, has been cleaned.

A new fence has been constructed around State property and lawns at Barge Lock No. 7, which improves the appearance of the property greatly.

Section No. 3, Champlain Canal.

Lock No. 12, Whitehall, has been pumped out, seats of outlet valves renewed and reinforced, the lock chamber cleaned and the lower gates painted.

New chains and pocket sheaves for valve machinery have been installed at Locks Nos. 11 and 12.

The upper gates at Barge Locks Nos. 9, 11 and 12 have been painted.

The movable dam at Barge Lock No. 12, has been scraped and painted, also all Barge canal bridges on this section.

Three bridges on the abandoned canal have been removed and crossings constructed at grade with the necessary guard rails.

Ditches have been dug on the summit and upper creek levels to drain adjacent lands.

The banks at Barge Locks Nos. 9, 11 and 12 have been graded and approximately 12,000 evergreen and 500 locust trees have been set out at these locks and on adjoining lands to hold spoil banks from sliding at various places.

Bridges on the abandoned canal, not already removed, have been replanked, new needle beams placed and shored up to make them safe for traffic.

GENERAL.

Weeds and brush have been cut and burned on all sections of the division.

On the river sections of the Barge canal, after storms, the buoys have been inspected, relocated where necessary, straightened up and freed of drift or floating debris. Numerous buoys which have been accidentally caught and torn loose from anchorage by canal tows and contractors' boats, have been picked up and placed back on station.

At Schuylerville, below Barge lock No. 5, State Dredge No. 1, dredged out the channel below the lock for a distance of about 1,000 feet.

The basin and entrance to dry dock at Schuylerville, old Champlain canal, have been thoroughly dredged out, the material being used as back-fill around the walls of the new terminal lock.

Drake's draw bridge at New Hamburg, Dutchess county, has been replanked, the piling repaired, the bridge painted and traffic warning signs erected.

Six hundred tons of riprap have been placed on the east end and south side of the Plattsburgh terminal breakwater.

Bridge piers, Barge canal, have been painted with "spots" marking the channel, and pier lights placed.

Poles and lights have been installed at the Port Henry terminal.

During the past nine months, from September 30, 1915, to July 1, 1916, there has been made at and furnished from the State shop at Cohoes and distributed to the different sections, dredges, and tugs on the Eastern Division manufactured materials representing money in value as follows:

Section One, Erie.....	\$671 35
Section Two, Erie.....	1,444 89
Section Three, Erie.....	2,526 92
Section Four, Erie.....	1,274 62
Section One, Champlain.....	2,822 90
Section Two, Champlain.....	184 26
Section Three, Champlain.....	90 00
Eastern Division	3,154 80
Tug Schenectady	87 32
Tug Amsterdam	55 64
Tug Ethel	93 50
"Inspector I"	18 16
Steam Pump	28 50
Dredge No. 1.....	118 79
Dredge No. 3.....	71 73
Middle Division	69 00

Total \$12,712 38

Financial statements, showing ordinary expenditures from October 1, 1915, to April 1, 1916; and April 1, 1916, to July 1, 1916, are herewith attached.

W. S. HAMLIN.

Assistant Superintendent.

DETAILED STATEMENT of expenditures on the Eastern Division of the Canals, by David H. Lewis, Assistant Superintendent of Public Works, October 1, 1915, to March 31, 1916, both inclusive.

Office.	Eastern Division.	ERIE CANAL.				CHAMPLAIN CANAL.				Totals.
		Section 1.	Section 2.	Section 3.	Section 4.	Section 1.	Section 2.	Section 3.		
Automobile repairs and supplies.	\$401 11		\$42 15	\$3 95	\$152 27	\$16 75	\$15 84	\$3 85	\$401 11	
Blacksmithing.	2 80	\$38 28	12 70	37 80		21 60			244 51	
Cement.									900 90	
Coal, all uses.	69 25	616 06	285 63	485 30	204 77	344 59	173 18	347 76	2,626 54	
Electric lighting and power.	15 82		153 48	21 20	209 40	78 98		14 25	804 71	
Equipment.	140 97								502 95	
Electrical supplies.									806 46	
Hardware, iron, castings, etc.	1,569 46	371 40	305 53	222 38	29 24	2 15	107 18	51 68	1,057 82	
Labor and team work.	8,897 22	500 89	623 42	822 17	535 14	287 50	211 82	249 96	4,800 86	
Labor (skilled), Cohoes State shops.	5,674 75	3,228 80	1,873 38	1,678 09	724 61	1,152 89	456 00	185 50	18,256 49	
Labor, tugs, dredges and scows.									5,674 75	
Lumber and timber, all uses.	1,110 65	900 01	1,204 59	1,216 30	396 53	2,685 20	56 06	855 88	2,923 20	
Merchandise, general.	1,249 10	890 74	30 63	11 35		36 01	69 45	44 72	8,914 89	
Oil for locks.	34 00	212 48	650 10	921 24	152 85	140 61	236 37	63 33	2,285 61	
Paints, painting, oil etc.	56 53	33 25	37 55	54 92	30 44	19 44	15 55	7 50	311 01	
Postage.									107 80	
Repairs to tugs, dredges and scows.	822 30								822 80	
Rent of offices, etc.									615 25	
Rope, line, etc.		16 41	63 13	47 14	86 97	131 25	3 34	84 00	354 49	
Supplies for tugs, dredges and scows.									182 87	
Stationery, printing, etc.	182 87								88 05	
Stenographer and typewriter.									390 00	
Sand, stone, gravel and clay.									390 00	
Telephone and telegraph.	298 88	191 53	395 04	328 28	182 29	129 88	165 85	80 03	1,042 22	
Transportation, freight and express.	56 98	886 18	158 32	133 73	46 93	187 26	93 89	328 46	2,014 51	
Operation and maintenance, movable dams.		4,926 24							4,926 24	
Total.	\$2,200 95	\$26,290 78	\$7,335 94	\$5,852 40	\$2,741 44	\$5,377 64	\$3,363 75	\$3,423 67	\$61,575 39	

DETAILED STATEMENT of expenditures on the Eastern Division of the Canals, by W. S. Hamlin, Assistant Superintendent of Public Works, April 1 to June 30, 1916, both inclusive.

	Office.	Eastern Division.	ERIE CANAL.				CHAMPLAIN CANAL.				Totals.		
			Section 1.	Section 2.	Section 3.	Section 4.	Section 1.	Section 2.	Section 3.				
Automobile repairs and supplies.....		\$647 85											\$647 85
Blacksmithing.....		93 23	\$16 80				\$9 40	\$18 49	\$15 71	\$11 00			54 60
Cement.....	\$450 00	23 44	74 50	\$43 50	\$102 15		33 40	445 19	49 78				159 81
Coal, all uses.....		1,158 05		54 94	159 52	486 76	63 56		53 50	34 25			450 00
Electric lighting and power.....		89 60	76 09	85 07	13 16	338 10	137 37						1,944 54
Electric supplies.....		175 00					75 00			176 80			788 22
Equipment.....	14 00	3,134 27	938 50	638 23	498 13	710 66	784 74	128 32	72 00	336 00			916 19
Hardware, iron, castings, etc.....		5,339 26	245 28	1,478 05	1,614 98	2,948 96	2,856 78	1,026 43	353 60	336 00			7,186 45
Labor and team work.....		3,059 70							421 51	15,931 18			3,059 70
Labor (skilled), Cohoes State shops.....		912 97	351 73	350 58			803 72			2,300 00			3,039 70
Lumber and timber, all uses.....		248 44	1,330 76	1,610 85	761 50	307 98	1,157 70	328 29	482 84	6,228 46			2,399 00
Merchandise, general.....		2,208 53	70 96	256 99	49 10	63 76	178 53	88 54	115 99	3,029 30			4,481 59
Oil for locks, buoys, etc.....		408 30	16 55	699 40	2,942 40	93 33	178 72	85 73	57 16	468 11			3,029 30
Paints, painting, oil, etc.....	40 00	210 71	13 69	63 00	28 47	34 90	40 85	9 56	9 28	38 84			468 11
Postage.....													38 84
Repairs to tugs, dredges and scows.....		2,565 71								2,565 71			2,565 71
Rent of offices, etc.....	150 00							43 75		241 75			241 75
Rope, line, etc.....		281 82	23 01			87 30				476 73			476 73
Supplies for tugs, dredges and scows.....		526 21								526 21			526 21
Stationery, printing, etc.....	26 95									26 95			26 95
Stenographer and typewriter.....	225 00												225 00
Sand, stone, gravel and clay.....										36 98			3 6 98
Telephone and telegraph.....	155 04	176 25	30 55	176 44	286 11	170 97	104 98	175 77	21 53	1,237 64			1,237 64
Transportation, freight and express.....	22 70	977 42	52 50	92 89	187 20	127 85	189 06	24 35	233 07	1,907 04			1,907 04
Operation and maintenance, movable dams.....		1,150 54								1,150 54			1,150 54
Towing.....										12 63			12 63
Total.....	\$1,083 69	\$25,387 30	\$3,240 92	\$5,530 04	\$6,639 72	\$5,413 31	\$7,100 63	\$2,013 40	\$2,193 01	\$56,607 02			\$56,607 02

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each on the line of the canal under the charge of E. L. Peddie, superintendent of repairs for section 1 of Erie canal, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	29	\$672 00
Lock-tending (exclusive of oil), unimproved .....	.....	4,026 82
Lock-gates	206	.....
Waste-weirs	11	.....
Culverts	20	.....
Weigh-locks	2	.....
Farm bridges (wood)	6	} 3,367 50
Farm bridges (iron) .....	.....
Road bridge (wood).....	1	
Road bridges (iron)	34	
Private bridge	1	
Tow-path bridges (iron).....	2	}
State scows	2	
Small boats	2	.....
Ice breaker	1	.....
Lock-houses	3	.....
Work-shop	1	.....
Watch-houses	11	.....
Store-houses	2	.....
Timber-shed	1	.....
Sub-stations	2	.....
Cleaning out bottom of canal during spring repairs .....	.....	800 00
Power-house	1	.....
Dam (Crescent)	1	.....
Slope wall .....	.....	438 00
Guard-gates	2	.....
Watching canal .....	.....	1,933 00
Other work of consequence which does not come under any of the above heads, viz.:		
Disbursing clerk .....	.....	675 00
Operating Barge canal.....	.....	21,291 53
Watchman at Barge canal.....	.....	150 00
Publishing abstracts .....	.....	52 50
Total.....	.....	\$33,407 28

REPAIRS AND IMPROVEMENTS.

A new feeder has been put in at Lock No. 3, Champlain.

All locks, bridges and iron structures on Barge canal have been painted.

There has been a new approach built at Island Park bridge.

A new bridge over raceway at Lock No. 2, Champlain, and a guard fence 400 feet long leading to pulp mill have been built.

Five hundred feet of new docking has been placed.

Two new balance beams have been built.

All bridges on section have been repaired that required such attention.

Thirty feet of retaining wall at Harmony street, Cohoes, has been rebuilt.

Lock No. 2 at Albany has been repaired.

Towpath between Lock No. 1 and Lock No. 3, Champlain, has been graded.

Approach to Lock No. 3, Champlain, has been filled in.

Bridges No. 24 and No. 31 on the abandoned Erie canal have been removed.

All weeds along canal have been cut.

E. I. PEDDIE,

Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on the line of the canal under the charge of James Scanlon, superintendent of repairs for section 2 of Erie canal, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks (Barge canal, 4; Erie canal, 7).....	11	\$188 66
Lock-tending (exclusive of oil).....	.....	3,990 00
Lock-gates	59	.....
Aqueducts	3	41 08
Waste-weirs	2	.....
Culverts	18	.....
Farm bridges (wood).....	12	} 2,573 71
Farm bridge (iron).....	1	
Road bridges (wood).....	17	
Road bridges (iron).....	10	
Tow-path bridge (iron).....	1	
State scows	5	.....
Ice breaker	1	.....
Lock-houses	2	.....
Work-shop	1	.....
Watch-houses	7	.....
Store-houses	2	.....
Timber-shed	1	.....
Raising and repairing tow-path and berme bank, not including repairs to slope walls. ....	.....	369 69
Cleaning out bottom of canal during spring repairs .....	.....	117 25
Watching canal .....	.....	630 00
Other work of consequence which does not come under any of the above heads, viz.:		
Disbursing clerk .....	.....	525 00
Single team .....	.....	125 00
Shop and bridge watch.....	.....	405 00
Store-house and lumber shed repairs.....	.....	62 88
Building guard-rails .....	.....	127 30
Removing iron rails (tracks) from gravel beds .....	.....	123 24
Delivering coal to locks.....	.....	41 07
Lockmaster .....	.....	1,125 72
Assistant lockmasters .....	.....	2,855 62
Lock operators .....	.....	6,245 53
Laborers on barge locks.....	.....	2,053 00
Operating Lock No. 21.....	.....	285 00

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 2 of Erie canal — (Continued)*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Buoy light tender.....	\$471 00
Caretaker section scows.....	30 00
Removing machinery from temporary lock at Visscher's Ferry	184 84
Removing lock irons from Lock 22.....	8 50
Setting shore lights.....	193 43
Assisting boats	6 50
Building and repairing roads on Lock 10...	208 16
Replanking horse hole.....	17 50
Cleaning refuse, etc., from locks.....	79 40
Publishing abstracts	51 75
Filing abstracts	2 79
Total.....	\$23,138 62

JAMES SCANLON,
Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 3 of the Erie canal, under the charge of Frank W. Reynolds, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks (old Erie, 8; Barge canal, 6).....	14	\$4,560 00
Bank watch		560 00
Repairing locks		384 46
Repairing aqueducts	7	84 86
Feeder tending		180 00
Culvert bridge near State shop, Fultonville.		45 23
Disbursing clerk		525 00
Farm bridges (wood).....	26	762 73
Farm bridges (iron)	5	113 34
Lift bridges	3	106 77
Road bridges (iron).....	11	235 15
Graveling bridge approaches		23 25
Graveling around locks.....		163 17
State scows, painting and repairs.....		221 50
Building deck scow.....		142 00
Raising and resetting buoys.....		189 98
Loading and unloading lumber.....		113 28
Repairing tow-path		480 49
Repairing berme bank.....		162 64
Watch-houses, Rocky Rift dam.....		29 00
Barge canal terminals.....		49 46
Barge canal locks.....		443 96
Piling lumber at Fultonville		61 71
Putting iron on sides and ends of scows....		78 77
Cleaning out bottom of canal during spring repairs		68 25
Shop watch		360 00
Cleaning drift wood from Aqueduct No. 10.		16 31
Loading sand and gravel.....		33 54
Scows at Mindenville.....		22 62
Buoy tending		458 06
Barge canal lock operating.....		14,948 85

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 3 of the Erie canal — (Continued)*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Other work of consequence which does not come under any of the above heads, viz.:		
Publishing abstracts of expenditures.....	\$77 25
Filing abstracts of expenditures.....	2 79
Total	\$25,804 42

FRANK W. REYNOLDS,
Superintendent.

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 4 of the Erie canal, under the charge of William Brennan, superintendent of repairs, during the 274 days ended June 30, 1916.*

STRUCTURES OR WORKS, ETC. .	Whole number on section.	Total expenditures.
Locks, repairs to.....	.....	\$1,308 50
Lock-tending (exclusive of oil).....	.....	8,490 18
Lock-gates	20	.....
Aqueducts, putting down.....	3	275 00
Waste-weirs	5	.....
Culverts	10	.....
Farm bridges (wood).....	11	.....
Road bridges (wood), repairs.....	9	878 00
Road bridges (iron).....	6	.....
State scows	3	.....
Small boat	1	.....
Lock-houses	5	.....
Work-shop	1	.....
Store-houses	4	.....
Raising and repairing tow-path and berme bank, not including repairs to slope walls. ....	.....	1,515 00
Cleaning out bottom of canal during spring repairs .....	.....	294 00
Cleaning on creek at Ilion.....	.....	465 00
Slope wall and vertical wall.....	.....	110 00
Watching canal, bank watch and watchman. ....	.....	719 48
Feeder tender .....	.....	150 00
Other work of consequence which does not come under any of the above heads, viz.:		
Lift bridge tenders, Little Falls.....	.....	642 00
Disbursing clerk .....	.....	675 00
Shop watch .....	.....	360 00
Single team .....	.....	150 00
Publishing abstracts .....	.....	54 75
Lock master .....	.....	312 70
Assistant lock master.....	.....	500 40
Lock operators .....	.....	2,078 11
Lock laborers .....	.....	640 00

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 4 of the Erie canal — (Continued).*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Buoy tender .....	.....	\$166 13
Look watchman, Look 19.....	.....	140 00
Guard-gate tender, Indian Castle.....	.....	135 00
Lock-houses, Barge canal.....	3	.....
Watch-houses, Barge canal.....	3	.....
Store-houses, Barge canal.....	3	.....
Dams	2	.....
Barge locks	3	.....
Total.....	.....	\$20,059 25

WILLIAM BRENNAN,
Superintendent.

162 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on Section 1 of Champlain canal, under the charge of J. B. Hutchins, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks, old canal.....	10	.....
Barge canal locks.....	5	.....
Dams.....	3	.....
Aqueduct.....	1	.....
Lock-gates, old canal.....	35	.....
Lock-gates, Barge canal.....	20	.....
Waste-weirs.....	11	.....
Culverts.....	7	.....
Tow-path bridge.....	1	.....
Farm bridges (wood).....	24	.....
Road bridges (wood).....	21	.....
Road bridges (iron).....	16	.....
Farm bridges (iron).....	3	.....
Waste-weir bridges.....	10	.....
State scows.....	2	.....
Collector's office.....	1	.....
Ice-breaker.....	1	.....
Spillway.....	1	.....
Lock-houses, old canal.....	9	.....
Tenant houses for lock tenders.....	3	.....
Lock-houses or power-house, Barge canal locks.....	5	.....
Store-houses, Barge canal locks.....	5	.....
Barge canal bridges.....	3	.....
Terminal dock, Mechanicville.....	1	.....
Superintendent of Canal Repairs, office, River street, Mechanicville.....	1	.....
Disbursing clerk.....	.....	\$675 00
Lock tenders, old canal.....	.....	3,571 00
Lock operators, Barge canal.....	.....	3,369 26
Lock master, Locks 1, 2, 3 and 4.....	.....	316 88
Assistant lock masters, Locks 1, 2, 3, 4 and 5.....	.....	1,661 34
Laborers, Barge canal Locks 1, 2, 3, 4 and 5.....	.....	1,548 00
Buoy tenders, Barge canal.....	.....	364 52
Single team.....	.....	125 00
Extra teaming.....	.....	35 00
Carpenter force.....	.....	2,752 50
State scow force.....	.....	1,948 00

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 1 of Champlain canal — (Continued).

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Bridge watching	\$379 52
Bridge tending	742 50
Bank watching	480 00
Bank watching, with horse.....	300 00
Harbor master	442 50
Weigh-lock tender	140 00
Watchman, Lock 5, Barge canal.....	159 96
Watchman, weigh-lock office.....	585 00
Publishing and filing abstract.....	58 29
Painting State scows and one ice breaker...	54 00
Total	\$19,708 27

J. B. HUTCHINS,
Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 2 of the Champlain canal, under the charge of Patrick O'Grady, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	\$212 50
Lock-tending (exclusive of oil)	6,964 50
Locks 6, 7 and 8, Barge canal	10,137 79
Lock-gates	187 50
Aqueducts	150 00
Aid to navigation	807 13
Feeder tender	157 50
Farm bridges (wood)	98 04
Road bridges (wood)	709 92
Foot bridges	11 00
State scows	62 50
Building boxes, stake lights	12 00
Lock-houses	25 00
Work-shops	100 00
Timber-sheds	62 50
Raising and repairing tow-path and berme bank, not including repairs to slope walls.	1,433 54
Cleaning out bottom of canal during spring repairs	612 50
Vertical walls	284 40
Watching canal	902 50
Other miscellaneous expenditures	156 50
Other work of consequence which does not come under any of the above heads, viz.:		
Clerk	675 00
Team work	218 00
Publishing and filing	81 54
Total	\$24,061 86

REPAIRS AND IMPROVEMENTS.

During the spring repairs, all locks on Glens Falls feeder were overhauled, and two sets new lock gates placed in the guard lock at the Glens Falls feeder dam. New mitre sills in Locks Nos. 1, 4 and 5, Glens Falls feeder.

Wells have been thoroughly cleaned, and but little trouble has been experienced in operating them this season.

Bridges have been carefully looked after, and repairs made where necessary. Several of the Glens Falls feeder bridges have been replanked, and new needle beams placed where needed.

All brush and weeds have been cut and burned.

At the opening of navigation we removed seven old ~~sunken~~ boats from the channel of the old Champlain canal through the village of Fort Edward.

PATRICK O'GRADY,
Superintendent.

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 3 of the Champlain canal, under the charge of Henry Neddo, superintendent of repairs, during the 274 days ended June 30, 1916.*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks (repairing woodwork on gates).....	\$13 50
Lock-tending (exclusive of oil) and care of machinery (labor)	10,283 11
Farm bridges (wood)	951 00
Farm bridges (iron).....		
Road bridges (wood)		
Road bridges (iron).....		
Tow-path bridges (wood).....		
Tow-path bridges (iron).....	
State scows	531 50
Grading and filling banks, etc.....	1,045 38
Raising sunken boat.....	13 50
Removing abandoned scows.....	28 62
Removing logs from bed of canal.....	27 00
Cleaning out ditches.....	336 00
Shop work	40 50
Placing booms at Lock 12.....	40 50
Cleaning bridges and approaches.....	160 90
Docking	94 50
Watching canal	670 00
Publishing and filing abstracts.....	58 09
Other work of consequence which does not come under any of the above heads, viz.:		
Harbor master and assistant.....	637 50
Inspecting canal, single horse.....	162 50
Clerical work, disbursing clerk.....	600 00
Towing State scows.....	256 00
Total	\$15,949 20

REPAIRS AND IMPROVEMENTS.

During the winter months Lock 12 was pumped out preliminary to repairing the lock valve system which had not been in proper working order. New castings, bars, chains and pocket sheaves were installed at Lock 12. The same equipment was installed, later, at Lock 11. Needle beams were placed at Locks 12, 11 and 9 and the lock gates and other fixtures, including the moveable dam at Lock 12, were painted and the wells cleaned at each of the three locks.

One of the State boats was thoroughly overhauled in the spring. Both boats were painted and are in serviceable condition this season.

Four Barge canal bridges have been painted this season. The others will be painted in succession. Needed repairs to farm and road bridges have been made early in the season. Due attention has also been given to grading and repairing banks and walls.

The three Barge canal locks are in good working order. There has been no interruption to navigation on this section.

HENRY NEDDO,
Superintendent.

MIDDLE DIVISION

REPORT OF THE ASSISTANT SUPERINTENDENT OF PUBLIC WORKS.

SYRACUSE, N. Y., *January 1, 1917.*

HON. W. W. WOTHERSPOOK, *Superintendent of Public Works,*
Albany, N. Y.:

DEAR SIR.—Following you will please find the annual report covering the repairs and improvements on the Middle Division of the New York State canals:

MIDDLE DIVISION.

General repairs made to Dredge Fleet No. 1.

General repairs made to Dredge No. 3.

General repairs made to pump and wrecking boat.

Equipped two hydraulic dredges with agitators for work on the site of Contract No. 4.

Weighlock and machine shop buildings were painted.

General repairs and new roof put on old storehouse, Beech street, Syracuse.

General repairs made to derrick boat "Stevens."

Section No. 5, Erie Canal.

All lift bridges in the city of Utica were overhauled and repairs made; also lift bridge at Canastota.

Various sections of the vertical and slope walls in the city of Utica were relaid.

Weeds and brush along the entire section were cut.

General repairs made to highway and farm bridges and other structures in connection with the Southern Reservoir system.

All Barge canal structures were painted.

Machinery to operate the gates of Hinckley reservoir dam was installed.

Repairs made to State house, barn and storehouse at Hinekley.

Fence was built at foot of dam, Hinekley reservoir, and rip rap wall on slope of dam repaired.

Gravel and other refuse cleaned out from underneath Starch Factory creek and Nail creek culverts and Cowassalon, Durhamville and Oriskany aqueducts.

New highway bridges erected as follows: Bridge No. 2, known as Hatfield's bridge; No. 23 at Whitesboro; No. 45, known as Herrig's; No. 50 at Stacy's Basin; and No. 54 at Dunbarton. Also new highway bridge crossing Oriskany feeder.

The following highway bridges were repaired: No. 47, known as Tuttle's; No. 60, known as Shellhammer's; No. 62, at Peterboro street, Canastota.

The refuse was cleaned out of the Oneida feeder.

The machinery of new Barge Canal Locks 20, 21 and 22 was dismantled and stored in the power house.

The eel grass was cleaned out from Madison and Chenango feeders.

The riprap wall on the south shore of Bradley Brook reservoir was relaid and the fence repaired and painted.

Fourteen hundred and fifty lineal feet of fence was built along the bank of Erieville reservoir to protect travel using the highway paralleling it.

A gate house was built over the bulkhead gates of the Oriskany feeder.

Weighlock building, Utica, repaired and painted.

Redredged channel of new canal at east end of Oneida lake on site of Contract No. 4.

Section No. 6, Erie Canal.

The several lift bridges in the city of Syracuse were overhauled and repaired.

General repairs were made to the masonry work and gates of Locks 47, 48, 49 and 50, Erie canal, and Locks 1, 2 and 3, Oswego canal.

The waste-weir between Locks 2 and 3, Oswego canal, was rebuilt.

The debris was removed from pool above Locks 2 and 3 at Seneca Falls.

Virginia street bridge, Waterloo, was lowered.

All bridges were replanked and repairs made where necessary.

Tow path on Cayuga level was scraped and graded.

About 600 feet of fence was built at Lock No. 4, Waterloo.

Weeds and brush cut entire length of section.

Buoys were built and placed at the foot of Cayuga lake.

A floating boom was placed above the spillway adjacent to Locks 2 and 3, Seneca Falls, to prevent boats from being carried over the spillway.

Black River Canal.

Machinery to operate gates in Delta dam installed.

A concrete wall was built at Boonville at a point where the Forestport feeder enters the canal.

Floor system of Whitesboro street bridge, Rome, strengthened.

The valves in the gates at Woodhull reservoir were repaired.

A new bridge crossing spillway and logway, North Lake, was constructed, being built of reinforced concrete.

A new concrete bottom was put in Locks 7, 25 and 26.

General repairs made to Locks 33 and 35.

Riprap wall was placed on bank of Delta reservoir to prevent highway from being undermined.

All lock houses between Boonville and Rome were repaired.

All bridges between Lyons Falls and Rome and those along Forestport feeder were painted.

Nine highway bridges were built and erected to replace structures that were unsafe. General repairs were made to several others.

About two miles of fence was built along the Alder Creek reservoir.

General repairs were made to the North Lake road and telephone line.

A financial table showing the total expenditures for ordinary repairs during the fiscal year from October 1, 1915, to June 30, 1916, is appended hereto.

D. S. BURLEIGH,

Assistant Superintendent.

DETAILED STATEMENT of Expenditures on the Middle Division of the Canals, by D. S. Burleigh, Assistant Superintendent of Public Works, from October 1, 1915, to June 30, 1916, both inclusive.

FOR WHAT EXPENDED.	ERIE CANAL.			Oswego Canal.	Cayuga and Seneca Canal.	Black River Canal.	Middle Division.	Office Expense.	Totals.
	Section No. 5.	Section No. 6.	Section No. 7.						
Blacksmithing and machine work for lift bridges and plants.	\$295 45	\$139 64	\$28 40	\$70 27	\$61 81	\$115 40	\$807 96	.....	\$1,518 93
Coal for all purposes, electricity for power and lighthouses.	287 88	576 33	30 81	697 72	641 21	58 15	1,065 52	.....	3,369 62
Hardware, rope, castings, rubber goods, etc.	692 61	1,881 33	984 67	2,061 91	522 58	2,298 22	2,340 95	.....	10,192 92
Oil, paint, etc., kerosene and gasoline.	986 10	1,403 78	224 91	323 87	183 70	431 92	1,118 56	.....	2,197 74
Lumber for construction.	3,783 49	1,996 93	2,776 69	653 54	1,729 00	3,195 28	4,920 10	.....	13,198 72
Labor and team work.	1,406 12	3,252 44	810 88	1,434 11	1,042 12	3,516 07	18,226 08	.....	29,747 85
Reservoir, feeder and welllock tradders and watchman's look 21.	1,498 26	595 00	180 00	.....	.....	1,301 61	.....	.....	3,474 87
Stone, sand, lime, cement, clay, etc.	82 19	15 95	17 55	79 80	5 95	1,285 33	.....	.....	1,453 77
Shovelers, stampers, heat, light, etc.	.....	.....	.....	.....	.....	.....	.....	\$153 59	1,453 59
Clerks and stenographers.	573 70	151 11	157 32	767 80	123 56	1,030 73	1,478 00	3,849 04	3,849 04
Expense, telephone, telegram, freight, etc.	80 60	164 00	.....	330 00	.....	227 52	1,138 12	571 93	4,813 83
Equipment.	.....	.....	.....	.....	.....	.....	.....	.....	1,949 44
	\$9,033 09	\$9,475 01	\$4,570 58	\$6,419 14	\$4,308 92	\$13,352 73	\$31,095 38	\$4,573 40	\$82,851 76

174 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 5 of the Erie canal, under the charge of John C. Dillon, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Lock	1	\$1,064 52
Lock-gates	8	.....
Aqueducts	4	.....
Waste-weirs	3	.....
Culverts	40	.....
Farm bridges (wood) . . . . .	.....	493 62
Road bridges (wood)	62	1,591 58
State scows	2	.....
Lock-house	1	.....
Work-shops	2	.....
Watch-house	1	.....
Store-house	1	.....
Timber-shed	1	.....
Raising and repairing tow-path and berme bank, not including repairs to slope walls. . . . .	.....	1,107 43
Cleaning out bottom of canal during spring repairs . . . . .	.....	2,345 25
Vertical walls . . . . .	.....	626 47
Docking . . . . .	.....	439 98
Watching canal . . . . .	.....	1,381 93
Other work of consequence which does not come under any of the above heads, viz.: . . . . .	.....
Tending Hotel street lift bridge . . . . .	.....	1,277 42
Care of and repairs to lift bridges . . . . .	.....	1,160 50
Disbursing clerk . . . . .	.....	675 00
Cleaning superintendent's office . . . . .	.....	63 00
Abstract publication . . . . .	.....	56 25
Team for superintendent going over section . . . . .	.....	217 35
Feeder tending . . . . .	.....	211 13
Watchman at State shop . . . . .	.....	400 00
Water tender at Whitesboro . . . . .	.....	50 00
Putting lift bridges in shape for winter . . . . .	.....	53 00
Placing barriers to prevent driving on tow-path . . . . .	.....	24 00
Unloading and piling lumber in State yard . . . . .	.....	64 38
Total . . . . .	.....	\$13,302 81

REPAIRS AND IMPROVEMENTS.

The section was cleaned of refuse and sand bars and all obstructions to navigation removed.

The following new bridges framed and placed: Hatfield Road No. 2; Watkins Road No. 23; highway feeder bridge at Oriskany, No. 26-A; Herrig's Road Bridge No. 45; Stacy's Basin Road Bridge No. 50; Dunbarton Road Bridge No. 54.

Made repairs to docking, berme bank and towpath where necessary.

Repaired and relaid vertical walls along section where needed.

Replanked the following bridges: Genesee Street Lift Bridge No. 8; Broad Street Lift Bridge No. 4; Hotel Street Lift Bridge No. 9; Washington Lift Bridge No. 11; Main Street, Yorkville, Lift Bridge No. 19; Brainard Street Foot Bridge No. 22; Bradley's Road Bridge No. 24; Barnard Farm Bridge No. 43; Peterboro Street Lift Bridge No. 62.

Painted weighlock building and all bridge shanties at Utica.

Built shanty over Oriskany feeder gates.

Repaired approaches and reset coping stones at Peterboro street lift bridge at Canastota.

Strengthened and repaired the following bridges: Tuttle's Bridge No. 47; Shellhammer Bridge No. 60.

JOHN C. DILLON,
Superintendent.

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 6 of the Erie canal, under the charge of E. J. Clark, superintendent of repairs, during the 274 days ended June 30, 1916.*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Lock-tending (exclusive of oil).....	\$5,682 26
Lock-gates, repairs	190 83
Bridge repairs (farm, road and tow-path)	1,736 54
Ice-breaker	71 88
Lock-houses	10 00
Lock-walls	73 85
Raising and repairing tow-path and berme bank, not including repairs to slope walls.	1,612 15
Cleaning out bottom of canal during spring repairs	429 06
Pointing and repairing walls during spring repairs	114 80
Repairs to vertical walls.....	110 77
Watching canal	2,172 73
Team for superintendent over section.....	2 00
Publishing and filing abstract of expendi- tures	59 92
Disbursing clerk	675 00
Repair and inspection of bridges (during closed season).....	278 00
Cutting weeds and brush.....	73 85
Total	\$13,293 64

REPAIRS AND IMPROVEMENTS.

The towing path on the Oswego canal just north of the Northern R. R. bridge was badly washed out last spring by the high water and ice in Onondaga Lake, for a distance of 1,500 feet. The towing path was put into good condition by boating material from below Belgium. This material was taken from a spoil bank by the dredge fleet, loaded onto gravel scows towed by the tug "Thomas Wheeler" and unloaded by the two scow crews and extra labor.

The culvert at Bloody Brook was very badly obstructed by refuse and mud. Dams were put into the brook on each side of the canal, the water and mud was pumped out by the pump boat, and the remainder of the refuse was thrown out by laborers with shovel and hooks.

The culvert at Canaseraga was badly choked with gravel. This was cleaned out by using teams and scrapers and common labor.

The weeds and brush have been cut on both sides of both the Erie and Oswego canals, and the feeders.

New wooden bridges have been placed at Herrick's, Gregg's, Poole's Brook and Orville feeder, on the Erie canal, and at Mud lock change, on the Oswego.

Braces have been placed in the Camillus aqueduct to strengthen the cap timber on the berme side.

The spillway between Locks Nos. 2 and 3, Oswego canal, has been renewed.

Gravel has been placed along the line of the towing path where needed, also on the approaches of bridges.

On account of there being a heavy increase in the use of heavy auto trucks, it has been necessary to strengthen the bridges as much as possible. This has been done to a certain extent by putting in extra floor joists.

The iron floor joist on the Clinton street bridge have been taken out and replaced with new ones (on account of being so badly rusted).

The following bridge floors have been renewed: Chittenango, Bolivar, Kirkville, Manlius Center, Stearns', Burdick's, Gregg's, Beech Street, Catherine Street, Orange, State, Warren, Clinton, Grape, Geddes Streets and Belle Isle, on the Erie, and James,

Willow, Park, Park Street Sidecut streets and Green Point bridges on the Oswego.

All other bridge floors have been patched when necessary.

Minor repairs have been done to locks when necessary.

Navigation on this section has been uninterrupted, except for a few hours, when a boat loaded with sand sank in the jaws of Mud lock, Oswego canal. The pump boat was put at work and soon had her out of the way.

At the close of navigation the banks were all in good condition.

There have been twenty-five (25) bodies taken from the canal on this section during the season.

E. J. CLARK,
Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 7 of the Erie canal, under the charge of A. B. Hallett, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	2	\$244 81
Lock-tending (exclusive of oil) .....	.....	2,129 03
Lock-gates	16	96 50
Aqueducts	5	48 00
Waste-weirs	3	30 46
Culverts	21	.....
Farm bridges (wood)	3	.....
Farm bridge (iron)	1	.....
Road bridges (wood)	10	.....
Road bridges (iron)	14	413 24
Tow-path bridges (wood)	2	.....
State scows	2	.....
Ice-breaker	1	25 00
Lock-houses	2	.....
Work-shops	1	131 54
Watch-houses	4	.....
Raising and repairing tow-path and berme bank, not including repairs to slope walls. ....	.....	2,151 46
Cleaning out bottom of canal during spring repairs .....	.....	313 12
Dams (feet, 257)	4	40 50
Slope wall .....	.....	174 40
Docking .....	.....	214 62
Repairs of breaches (Putnam feeder) .....	.....	73 72
Watching canal (bank watch) .....	.....	953 43
Tools, including shovels, picks, crow-bars, axes, etc. ....	.....	45 00
Other work of consequence which does not come under any of the above heads, viz.:		
Publishing and filing abstracts .....	.....	57 54
Livery. (inspection and payrolls) .....	.....	136 50
Mowing weeds .....	.....	215 08
Disbursing clerk .....	.....	450 00
Feeder tenders .....	.....	527 66
Piling lumber (State yard) .....	.....	138 42
New snubbing post .....	.....	48 93
Graveling approaches Toll Road bridge (Barge) .....	.....	55 38

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 7 of the Erie canal — (Continued).*

STRUCTURES OR WORKS, ETC.	Whole section. number on	Total expenditures.
Taking care of water, Richmond aqueduct (flood May 17th).....	\$21 22
Removing flood wood and ice (Putnam waste-weir)	17 50
Moving tools, State shop, and closing canal.	28 97
Taking care of water (filling canal).....	24 00
Assisting division crew at Montezuma (Cayuga canal)	18 22
Making signs (Driving on tow-path).....	3 00
Pumping scow	2 22
Total	\$8,829 47

REPAIRS AND IMPROVEMENTS.

LOCKS.

The machinery of Lock No. 51 has been lined and repaired, bottom cleaned of silt and stones; Lock No. 52, a new gate was built and installed; new bucking beams on both locks; wells and bottom cleaned, machinery adjusted.

BRIDGES.

Bridges Nos. 98, 99, 101, 106 were painted; also highway bridge, Putnam feeder. Bridge No. 104, new decking and railing repaired; Nos. 116 and 119, new decking where needed.

TOWPATH.

One and one-half miles of towpath were raised with gravel and scraped the entire length of section. Berme bank raised where necessary.

SLOPE WALL.

Slope wall was relaid on Weedsport and Montezuma levels. About one-half mile topped with stone and back-filled with earth where bank was being washed.

FEEDERS.

Breech in Putnam feeder bank was repaired.

STATE SHOP.

State shop, shed and fence was painted, gate repaired and part new floor laid in basement.

DOCKING.

About 1,100 feet of docking was rebuilt at Weedsport and on towpath at Bridges 108 and 116.

SPRING REPAIRS.

Bars were removed from canal at Putnam feeder, Centerport, and east and west of Lock No. 52.

A. B. HALLETT,
Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on the Oswego canal, under the charge of M. A. Stranahan, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	9	\$21,294 57
Aqueduct	1	.....
Waste-weir	1	.....
Road bridges (wood).....	.....	175 15
State scows .....	.....	19 46
Lock-houses	9	.....
Work-shops .....	.....	5 00
Shifting buoys .....	.....	38 93
Store-house	1	.....
Timber-shed	1	.....
Taintor gates (cutting ice).....	.....	4 00
Cleaning State ditches.....	.....	74 62
Cleaning head-gates .....	.....	155 69
Watching canal .....	.....	1,010 00
Watchman .....	.....	1,008 00
Preparing Lock No. 24 for opening of navigation .....	.....	52 00
Other work of consequence which does not come under any of the above heads, viz.:		
Removing bridge at Minetto and piling the timbers at Fulton.....	.....	214 08
Reservoir tender .....	.....	100 00
Gate tender .....	.....	60 00
Light tenders .....	.....	1,596 75
Disbursing clerk .....	.....	675 00
Bridge tenders .....	.....	201 28
Publishing abstract .....	.....	83 00
Filing abstract .....	.....	2 79
Total .....	.....	\$26,770 32

REPAIRS AND IMPROVEMENTS.

During the winter buoys were painted and repaired.

Before opening navigation, buoys and shore lights were placed along the section where it was necessary to show the location of the channel.

Towpath bridges on section were repaired where necessary.

A new railing was placed along raceway at Fulton.

All steel structures on the section were painted.

Twenty-four thousand young trees were set out at Lock No. 23 and Lock No. 6 (a few at No. 6).

Lawn at Lock No. 8 was leveled, graded and the stones picked out.

State ditches at Fulton and Phoenix were cleaned.

Stone dyke at Fulton was repaired.

Made a fill and removed highway bridge at Hinmanville.

Old canal bridge at Lock No. 1 was removed.

Boated gravel and repaired road along side of Lock No. 1.

Twenty-nine piles were driven on buoy station.

Cut ditch through upper end of dyke at Schroeppel bridge.

Built new bridge operating house at Phoenix.

Made many temporary repairs and a great amount of permanent ones at Lock No. 1 following Phoenix fire.

Erected lower railing on lower gate of Lock No. 1, Phoenix.

At close of navigation, buoys and shore lights were picked up and stored for the winter.

M. A. STRANAHAN,
Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on the Cayuga and Seneca canal, under the charge of George A. Dobson, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks, unimproved canal	\$156 22
Locks, Barge canal	120 76
Locktending, unimproved canal	887 76
Locktending, Barge canal locks	2,046 96
Road bridges	649 70
Watch-houses	24 92
Scraping and repairing tow-path	233 27
Watching canal	145 81
Disbursing clerk	450 00
Livery for inspection and paying-off	91 00
Caring for Cayuga dam	450 00
Publishing abstract	53 25
Work at State yard	87 23
Caring for bridges	225 00
Installing buoys in Barge canal channel, Cayuga Lake	22 50
Aiding grounded boats	15 41
Raising sunken boat	75 48
Removing debris from canal channel	45 29
Watchman yacht "Inspector"	512 00
Total	\$6,292 56

REPAIRS AND IMPROVEMENTS.

All highway bridges replanked and repaired.

Locks Nos. 9, 10 and 11 cleaned and repaired.

Barge Canal Lock No. 2 cleaned.

Five hundred and nine lineal feet of fence erected at Barge Canal Lock No. 4.

GEORGE A. DOBSON,
Superintendent.

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on the Black River canal, under the charge of Fred. M. Woolley, superintendent of repairs, during the 274 days ended June 30, 1916.*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	107	\$375 92
Lock-tending (exclusive of oil) .....	.....	7,610 00
Lock-gates	379	367 50
Aqueducts	5	.....
Waste weirs	11	.....
Culverts	19	.....
Farm bridges (wood)	28	159 85
Road bridges (wood)	18	307 65
Road bridges (iron)	25	100 81
Tow-path bridges	3	146 00
State scows	2	35 75
Small boats	2	.....
Lock-houses	54	231 56
Work-shops	2	350 75
Watch-houses	3	.....
Timber-shed	1	.....
Raising tow-path and repairing tow-path and berme banks, not including repairs to slope wall .....	.....	516 92
Cleaning out bottom of canal during spring repairs .....	.....	1,178 75
Docking .....	.....	323 31
Repairing sink holes .....	.....	36 93
Watching canal .....	.....	1,160 67
Sluices .....	.....	117 34
Windlasses .....	.....	53 50
Other work of consequence which does not come under any of the above heads, viz.:		
Disbursing clerk .....	.....	450 00
Tending Alder creek reservoir .....	.....	270 00
Tending Delta reservoir .....	.....	540 00
Watchman, State yard, Boonville .....	.....	210 00
Tending Garden street bridge .....	.....	300 00
Livery for inspection and paying off .....	.....	199 00
Cleaning superintendent's office .....	.....	31 50
Publishing abstract .....	.....	154 41
General repairs .....	.....	2,616 72
Removing sand-bar .....	.....	55 39
Piling lumber .....	.....	17 50

ANNUAL REPORTS, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on the Black River canal — (Continued).*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Alder creek reservoir dam.....	\$164 00
Breaking ice	8 75
Framing bridges	120 50
Repairing wheelbarrows	16 00
Building riprap wall.....	92 31
Stop-gate, Forestport feeder.....	18 50
Boating lumber, stone, sand and coal.....	719 79
Total	\$19,057 58

REPAIRS AND IMPROVEMENTS.

During the past year a new highway bridge was constructed across the spillway and logway of North Lake reservoir, the same being 175 feet long, with 12 foot roadway, built of reinforced concrete, with 12-inch I-beams imbedded in the floor.

A concrete retaining wall, 162 feet in length, was built on the summit level, in the village of Boonville, opposite Forestport feeder, where the bank was being undermined.

New concrete bottoms were constructed in Locks 7, 25 and 26.

All the lock houses, between Boonville and Rome, have been placed in good repair and painted.

All the bridges, between Lyons Falls and Rome, including the Forestport feeder, were painted.

Nine farm and road bridges have been constructed and erected, to replace structures that were unsafe.

Nine hundred yards of stone were placed along the State highway bordering the Delta reservoir, to prevent the undermining of foundation of road by the wash of the waters.

The brush and weeds along the entire length of the canal were cut and burned.

A large quantity of docking was put in and more is needed.

Navigation was not interrupted during the year.

FRED. M. WOOLLEY, *Superintendent.*

WESTERN DIVISION

REPORT OF THE ASSISTANT SUPERINTENDENT OF PUBLIC WORKS

ROCHESTER, N. Y., *October 15, 1916.*

Hon. W. W. WOTHERSPOON, *Superintendent of Public Works,*
Albany, N. Y.:

DEAR SIR.—I beg to herewith respectfully submit the annual report for the Western Division, New York State Canals, for the period beginning October 1, 1915, and ending October 15, 1916; also a financial table showing the expenses for ordinary repairs from October 1, 1915, to the close of the fiscal year June 30, 1916, in detail.

The Western Division of the Erie and Barge canals was opened for navigation on May 15th. Navigation was maintained to the date of this report without serious complaint from transportation interests, which I accept as evidence of the satisfactory conditions which I have tried to maintain.

During the past closed season a large amount of work was done on this division, particularly between Rochester and Lockport, viz., lowering Culvert No. 124 at Chapel street, Lockport; removing old stop gates at East Holley, West Holley and Knowlesville, and deepening under Holley bridge. This work deepened the canal to Barge canal depth at these points, and made the regulation of water on the Sixty-mile level much more satisfactory than heretofore. Other work of a repair character was done at different locations on this division, which is enumerated elsewhere in this report.

During the closed season new Culvert No. 30, over Irondequoit creek, was built, and the flume over same reconstructed. The entire floor of flume was recovered with two-inch plank and floor and sides recalked. Navigation was uninterruptedly carried through the flume during the season.

The high water of the winter and spring of 1916 caused a vast amount of damage on this division; for instance, the carrying away of Tonawanda dam and Webster street bridge, at Tonawanda, January 7th; damage to New Home bridge over Tonawanda creek, and a great many slides in the banks along Tonawanda creek; a break in the bank west of Port Gibson bridge; a break in the bank east of Port Gibson bridge, this latter causing a considerable expenditure for repairs.

On July 4th the high water in Ganargua creek undermined the power house at Barge Canal Lock No. 29, causing a break which held up navigation at that point from 4 A. M. July 4th to 3 P. M. July 9th.

The work of repairing the wash-out at Macedon by-pass, which was discontinued at the time of the Port Gibson break, was started again July 18th, and hurried to completion.

Old bridges over abandoned canal on Section No. 8 were removed, and fill made for roadway, an improvement much appreciated by the town authorities and residents.

All Barge canal locks and about one-third of the Barge canal bridges on this division were painted during the summer.

The following is a detailed summary of the repairs made:

GENERAL IMPROVEMENTS ON THE WESTERN DIVISION OF THE NEW YORK STATE CANALS FROM OCTOBER 1, 1915, TO OCTOBER 15, 1916.

ORDINARY REPAIRS.

Western Division.

Boiler installed for new heating system for Western Division shops and administration building.

Loading and transporting emergency Barge canal gates from Rochester to Palmyra.

Lumber stored at Holley, loaded on scows, transported to and unloaded at Bushnell's Basin.

Machinery, electric wiring and motors on all lift bridges inspected and kept in working order.

Waste weirs inspected and put in working order.

Labor performed by the Western Division shops was applied as follows:

Completing building emergency gates for Barge canal locks.

Building wooden toilets for Barge Canal Locks Nos. 28-B, 29 and 30.

Making one pair of gates for Lock No. 72.

Making braces for cabinet doors at Barge canal locks.

Making flag poles for Barge canal locks.

Building iron gratings for valves at Barge Canal Locks Nos. 34 and 35.

Repairing and overhauling boats.

Assisting in making repairs to bridges.

Making and repairing tools.

Making three new tool-boxes, twelve pike poles, and 150 warning signs.

Installing air compressor in Western Division shops.

New cement floor laid in blacksmith shop.

Placing dam sticks in bulkhead in Genesee feeder.

Erecting stiff-leg derrick in State Yard.

Making floor beams for Marsh Road bridge.

Making two portable houses.

Making new mitre sill for Lock No. 62.

Making new platforms and rails for Locks Nos. 64 and 65.

Making and placing cover over operating machinery at Rowland's waste weir.

Building new rowboat for use at Lockport locks.

Substituting bridle equipment for broken bull wheel on derrick boat.

Making lifting device for Barge canal locks on Section No. 8.

Assisting in getting out material in shops for repairs to bridges, old locks, etc.

The tug "Flower City" was kept in commission throughout the season of navigation delivering materials to various points, raising sunken boats and assisting boats in distress to their destination; also delivering Gantry crane from Lockport to Baldwinsville.

Section No. 8.

Repairing leak east of Bridge No. 3 by driving piling for 30 feet.

Building 214 feet of concrete walk, including curb, and relaying 65 feet of old walk with new curb, on west side of Division street, Palmyra.

Rebuilding dam in by-pass around Barge Canal Locks No. 30.

Repairing wash-out at Lyons power house by grading and filling west of same near Barge Canal Lock No. 27.

Machinery removed from Barge Canal Locks Nos. 26, 27 and 28-A.

Machinery removed from power house at Barge Canal Lock No. 29.

Dynamited ice jam west of Clyde, and banks re-enforced at Barnhart's waste weir.

Repairing temporarily break in north bank of Barge canal about 500 feet west of Port Gibson highway bridge.

Repairing sidewalks at Main street, East avenue and Lyons Road bridge approaches, at Newark.

Cleaning out State ditch on north side of Barge canal from West Shore Railroad at East Newark to culvert passing under Barge canal, for a distance of 1,500 feet.

Digging ditch on north side of Barge canal east and west of Port Gibson highway.

Ditching at culvert under highway near Macedon lock.

Cleaning out State ditch on north side of Barge canal east of Lock No. 56.

Water wheel at Clyde lift bridge was taken out, repaired and replaced.

An extra force was provided by the Division office for cutting weeds and brush.

Section No. 9.

Rebuilding vertical wall on berme side of canal west of Brown street bridge, in the vicinity of the Whitney Elevator warehouse.

Transmission line taken down between Barge Canal Locks Nos. 32 and 33, and stored same, with switches and motors, at State Yard, Rochester.

Taking down and dismantling Bridge No. 124, loading same on boat, transporting to and erecting on site of Bridge No. 90.

Cleaning out ditch along Barge canal adjacent to Rodman farm.

Building tile drain at the Pittsford Milling Company, Pittsford.

Ditching at Bushnell's Basin to relieve unsanitary conditions on adjoining land.

Ditching and laying tile drain on Hobbie Farm, at Barnard's.

Taking up old box drain and replacing same with pipe for a distance of 50 feet, to relieve flood conditions on the property of Oscar Dauchy, east of Brockport, on berme side of canal.

An extra force was provided by the Division office for cutting weeds and brush.

Installing new bearing boxes at cable drums, and cross shaft on West avenue lift bridge, Rochester.

Repairing leak on berme side of canal 500 feet west of Donnelly's Bridge No. 59, by driving piles.

Section No. 10.

Replanking Oak Orchard creek feeder at Medina, covering a surface of about 3,500 square feet.

Grading and riprapping with stone embankment at building of A. L. Burrowes, Albion.

Removing clay piles in prism of canal east of Bridge No. 153, and filling in holes in center of canal with same for a distance of 800 feet.

Placing sewer pipe from Chapel street sewer, Lockport, at foot of bank in rear of Moran and other lots, to care for leakage.

Trash racks installed at Medina waste weir.

Built concrete sidewalk at Brown street bridge, Albion.

Making and installing life-saving device for vertical wall at Middleport.

Redecking bridge over State ditch at Bear Ridge road, and filling around culvert opposite Hodgeville road.

Building concrete sidewalk at Chapel street bridge, Lockport.

Removing obstructions in roadway at Chapel street, Lockport.

Cutting weeds and brush at Oak Orchard creek feeder.

An extra force was provided by the Division office to assist scow forces in cutting weeds and brush.

New shafts were installed in main sheaves at Knowlesville lift bridge.

Ditching at Clark's quarry, east of Bridge No. 120, to stop leak in towpath.

Ditching in old canal prisms at Holley to relieve unsanitary conditions.

Section No. 11.

Work was performed by the dredge "Empire State" as follows:

Dredging out sunken canal boat loaded with slag at Wickwire Works, and dredging out abandoned sunken boat at head of Lock No. 72.

Removing sunken boat at Hamilton street, Buffalo.

Excavated 5,400 cubic yards of material from Slip No. 1, between River street and west end of slip, Buffalo.

Excavated 2,900 yards from Slip No. 1, between River street and east end of slip, Buffalo.

Excavated 10,770 cubic yards from Erie canal between Charles and Georgia streets, Buffalo.

The tug "Queen City" was employed in towing to dumping grounds material excavated by dredge "Empire State," and doing other necessary shifting and towing of boats.

The tug "State of New York" was employed moving pile-driver and derrick boats where necessary, delivering material, etc.

The following work was performed by the pile-driver force;

Pulled 35 oak piles 35 feet long from berme side of canal at Martinsville; also pulled 180 pieces of yellow pine sheet piling 4 inches by 10 inches by 30 feet long, where roadway caved in east of Martinsville on berme side of canal.

Rebuilding timber dock at Tonawanda dam between Main and Delaware streets.

Raising State dump scow which was wedged in lock of old tier at Lockport.

Placing timber bulkhead in Lock No. 72 to care for high water.

Removing 240 feet of timber dock from canal in Tonawanda,

between Main and Delaware streets, to prevent ice jam during freshets.

Removing sunken canal boat from abandoned canal under New York Central Railroad bridge at Tonawanda.

Rebuilding vertical wall under Jersey street bridge, Buffalo.

Tug "Queen City" repaired by calking and sheeting same with iron.

New deck placed on pile-driver boat, leaders reframed, and new leader frame built.

Repairing dredge "Empire State" by calking, etc.

Repairing and calking scow "Tonawanda."

Repairs made to tug "State of New York," mud scows Nos. 1, 3, 4 and 5, scow "Buffalo," and clam-shell derrick.

Built embankment on east and north sides of New Home bridge to prevent further damage, and removed planking from bridge to lighten same. Drove twelve 35-foot piles on north end of bridge, capped twice and cross-timbered same with 12-inch by 12-inch by 32-foot timbers; placed vertical braces from bottom chord to top chord to wedge same; also two vertical braces at extreme end of bridge. Drove twelve 41-foot piles on south end of bridge, capped four times and cross-timbered same with 12-inch by 12-inch by 32-foot timbers. Placed braces, etc.

Rebuilt 500 lineal feet of guard-rail on trestle over Ransome creek.

Repairing slide in towpath at Seymour street, Tonawanda.

Riprapping at spillway in Tonawanda.

Reinforced bottom chords of Main street bridge, crossing State ditch at Tonawanda.

PAINTING BRIDGES, ETC.

W. D. E.

Painting administration building, carpenter and blacksmith shops, oil house, division storehouse, and other buildings in State yard at Rochester.

Painting gravel scows Nos. 1 and 2, house-boat, derrick boat, steamer "State of New York" of Rochester, tug "Flower City," and State scows Nos. 1 and 2.

SECTION No. 8.

Painting Barge Canal Locks Nos. 27, 28-B, 29 and 30.

Painting Geneva street and Halfway Barge canal bridges in Lyons.

Chapter 708, Laws of 1915.

Painting bridge approaches at Halfway Barge canal bridge.

Painting Barge canal bridges as follows: Main street and East avenue at Newark; Burnham's and Peek's bridge at Newark; also bridge at Barge Canal Lock No. 28-B.

Painting temporary power house at Palmyra.

SECTION No. 9.

Ordinary Charges.

Painting Barge canal bridges as follows: Scottsville road, Statt road, South avenue, South Clinton street, Winton road, Lyell avenue, Lee road, West Henrietta, Webster's, Cressey's, Amity street, Spencerport, Adams Basin, Doty's, Cooley's and Park avenue, Brockport.

Painting Barge Canal Lock No. 33.

Chapter 708, Laws of 1915.

Painting gates at Barge Canal Lock No. 33; also power house and lock bridge, Barge Canal Lock No. 32 and approaches.

Painting Park avenue, Main street, Smith street and County Line Barge canal bridges at Brockport; also stop gate and waste weir at Brockport.

Painting Monroe avenue Barge canal bridge at Pittsford.

SECTION No. 10.

Ordinary Charges.

Cleaning and painting Barge Canal Locks Nos. 34 and 35; also painting power-house and storehouse at locks.

Painting Pine street and Main street Barge canal bridges in Lockport.

Chapter 708, Laws of 1915.

Painting road fence between County Line bridge and East Holley bridge.

Paint Barge canal bridges as follows: East Holley bridge and approaches, Holley lift bridge, and Transit street bridge at Lockport.

Painting Gantry crane at Lockport.

SECTION No. 11.

Chapter 708, Laws of 1915.

Painting Delaware avenue bridge at Tonawanda.

EXTRAORDINARY REPAIRS.

Chapter 237, Laws of 1915.

Section No. 8.

Repairing lower mitre sill of Lock No. 53.

Making and installing one pair of lower gates for Lock No. 54.

Removing decayed portion of floor and sides of Lyons aqueduct, and relaying floor with new plank; also reinforcing north side with oak timber where necessary.

Repairing break at Port Gibson on berme side of canal, where 200 feet of embankment had been washed out.

Building dam in by-pass at Barge Canal Lock No. 29, at Palmyra, and building temporary power-house, to keep navigation open on account of break at this point, and collapse of power-house.

Section No. 9.

Building new platform at the head gates of Genesee Valley feeder.

Repairing tumble gates, etc., of Lock No. 64; also replanking both sides of gate, replacing plunge rods of upper towpath gates, and repairing middle ground.

Placed new mitre sill in Lock No. 62.

Replanked upper towpath gate at Lock No. 63, and repaired foot of lock and recess.

Making new rail and posts for platform on middle ground of Lock No. 65.

Pointing vertical wall opposite Hess property near Exchange street lift bridge.

Repairing Culvert No. 35 by excavating between breast wall and cut-off wall to top of arch on berme side, concreting arch and rebuilding breast wall.

Placing concrete jacket on slope wall between Winton road lift bridge No. 61 and Lock No. 64, on towpath side, to prevent flooding of lands.

Section No. 10.

Procuring 50 pieces of new timber for stop logs at Sulphur Springs guard lock.

Repairs to spillway at culvert east of Riley's bridge.

Section No. 11.

Built one pair of gates for Lock No. 72, and repaired pier at head of Lock No. 72.

Repaired gates, paddles, mitre sills and bottom of River lock at Tonawanda.

W. D. E.

Built four new derricks for use on Sections Nos. 8, 9, 10 and 11.

Chapter 147, Laws of 1903.

Section No. 8.

Building spillway near Wayneport at junction of the old Erie and Barge canals.

Foot bridge was fabricated at Western Division shops and erected at Harrison's spillway.

Section No. 9.

Cleaning out ditch between culverts Nos. 48 and 49, and putting in 10-inch vitrified pipe under strain, from a point near Vickery farm, to eliminate seepage.

Section No. 10.

Repairs to vertical wall at Clark's quarry.

Removing old stop gates at East Holley, West Holley and Knowlesville.

Removing old grillage and excavating earth under and east of Holley bridge.

Repairs to Culverts Nos. 103 and 113.
Rebuilding Culvert No. 124.

Section No. 11.

Strengthening abutment of Bush's Bridge No. 173, and loading down bank with riprap, to prevent further sliding.

Chapter 702, Laws of 1915.

Section No. 8.

Building guard rails on new roadways where following old bridges were removed: Nos. 30, 33, 41 and 42.

Removing old bridges Nos. 27, 32 and 34, and filling in prism of old canal to make roadways in place of same.

Chapter 283, Laws of 1915. Chapter 255, Laws of 1916.

Two tugs were employed continuously throughout the season of navigation, for the purpose of towing boats through completed portions of Barge canal in Wayne county.

Chapter 727, Laws of 1915.

Section No. 10.

Deepening channel of Eighteen Mile creek, and straightening same.

Chapter 708, Laws of 1915.

Section No. 10.

Erecting Gantry crane at Barge Canal Lock No. 35.

Chapter 718, Laws of 1913.

Repairing dikes on Chemung river, in the city of Elmira.

I wish in this report to thank my subordinates for their loyalty, painstaking efforts and strict attention to their duties, which contributed the major portion toward the past satisfactory season.

HENRY A. KUNZE,

Assistant Superintendent.

REPORT OF THE ASSISTANT SUPERINTENDENT OF PUBLIC WORKS.

HON. W. W. WOTHERSPOON, *Superintendent of Public Works,
Albany, N. Y.:*

DEAR SIR.—Herewith I respectfully submit report for the Western Division, New York State canals, for the period beginning October 16, 1916, and ending December 31, 1916.

The following is a detailed summary of repairs made:

GENERAL IMPROVEMENTS ON THE WESTERN DIVISION OF THE NEW YORK STATE CANALS FROM OCTOBER 16, 1916, TO DECEMBER 31, 1916.

ORDINARY REPAIRS.

Western Division.

Work was performed as follows by the Western Division shops:
Building new platform over spillway north of weighlock building.

Making balance beams for Locks Nos. 63 and 64.

Making and placing guard rail at foot of Church street, Medina.

Making wooden weir for measuring leakage at Ford's quarry.

Repairing water wheel in Western Division shops.

Assisting in placing boats in winter quarters, and protecting same by boarding up windows, etc.

Making one pair of upper towpath gates for Lock No. 66.

Erecting hand rail on change bridge at weighlock building.

Repairing mortice machine in Western Division shops.

Making and repairing tools for Western Division.

Taking down old stack of boiler and erecting new smoke stack at weighlock building.

Checking and inspecting lumber received on contract.

Making brackets for chimneys and new storm panels for Barge canal lock power houses.

Making repairs to machinery at Lock No. 65.

Section No. 8.

Restoring north bank of Barge canal at Barhite's waste weir.

Raising west bank of canal at Port Gibson bridge.

Constructing storm sash, doors, and chimneys for power houses on Barge Canal Locks Nos. 26, 27, 28-A and 28-B.

Cleaning out ditch crossing Heit and Waldorf farms, east of Clyde.

Cleaning out and widening State ditch on south side of Barge canal at East Newark.

Dredging out bar at foot of Barge Canal Lock No. 29.

Section No. 9.

Restoring approaches and building curtain wall at County Line Bridge No. 112.

Constructing storm sash, doors and chimneys for power house at Barge Canal Lock No. 33.

Restoring approaches and building concrete sidewalk at Smith street Bridge No. 109, at Brockport.

Removing timbers from prism of canal at flume at Bushnell's Basin, and piling same 600 feet west of flume on berme bank.

Removing 150 tons of coal from Bushnell's Basin to Rochester.

Completing erection of Bridge No. 124 on site of Bridge No. 90, with the exception of filling in approaches.

Ditching east of Lexington avenue bridge on Bantel property.

Cleaning out ditch on land of H. Baird, at Adams Basin.

Ditching and laying 6-inch tile drain between east line of Kelley farm and Culvert No. 57.

Section No. 10.

Re-surfacing approaches to Vernon street bridge at Middleport.

Building dike and riprapping same at outlet end of Culvert No. 731½.

Section No. 11.

The following work was performed by the pile-driver force:

Removing old sunken scow from under Delaware street bridge in Tonawanda.

Removing 210 lineal feet of timber docking between Main and Delaware street bridges, Tonawanda, to avoid ice jam.

Raising sunken abandoned steamboat in Barge canal about 500 feet west of Pendleton bridge.

Wrecking old canal boat about one-half mile west of Bush's bridge; also wrecked old canal boat 50 feet east of Delaware street bridge, in Tonawanda.

Dredging was performed as follows by the dredge "Empire State":

9,300 cubic yards of material excavated between Erie and Genesee street bridges, Buffalo.

900 cubic yards of material between Commercial street and Evans street bridges, Buffalo.

EXTRAORDINARY REPAIRS.

Chapter 147, Laws of 1903.

Section No. 10.

Cleaning out ditch between Culverts 73½ and 74 to relieve damage to land of John H. Kirby, Albion.

Chapter 718, Laws of 1913.

Completing repairing dikes on Chemung river, in the city of Elmira.

RECOMMENDATIONS.

I respectfully make the following recommendations:

There is a matter of special importance, to which I desire to call attention, and to recommend that measures for relief to owners of property be taken, viz.: the thorough cleaning out of all ditches which have been clogged up, resulting in damage to the land by seepage from the canal through not being disposed of on account of this clogged condition. These distressing and unfortunate conditions have borne fruit in numberless claims for damage. The cost of defending these claims, added to the awards made in a large percentage of the cases, will in my opinion largely exceed the cost of doing the necessary work before the damage is sustained. Removing the cause is, in my judgment, the cheaper and better method of dealing with the matter.

A three-ton gasoline truck should be furnished at Rochester to expedite the delivery of men, tools and material, in case of emergency, as well as being the most economical method of transporting materials to bridges, etc., in Rochester and vicinity.

All bridges and guard gates not painted during the year 1916 should be painted during the summer of 1917.

A fast gasoline motor boat should be provided for this Division, particularly to make monthly inspections.

Life-saving devices, similar to those installed at Medina and Middleport, should be constructed on all vertical walls on this Division.

This Division is short of boat equipment, and I would recommend the building of six large lighter scows for use in transporting materials.

JACOB ALLMEROOTH,
Assistant Superintendent.

ITEMIZED REPORT of Expenditures by Henry A. Kunze, Assistant Superintendent of Public Works, in Account with W. W. Wotherspoon, Superintendent of Public Works, for Ordinary Repairs on the Western Division, New York State Canals, for the Fiscal Year of 1915-1916, Extending from October 1, 1915, to June 30, 1916.

ITEMS	Western Division Office.	Western Division Erte.	Section No. 8.	Section No. 9.	Section No. 10.	Section No. 11.	Totals.
Salaries clerks, stenographer and janitress	\$3,088 51	\$23,431 89	\$3,371 24	\$5,785 68	\$2,399 54	\$9,128 64	\$3,088 51
Labor, foremen, patrolmen, etc.	.....	944 96	7,430 58	6,921 81	1,257 40	6,533 31	44,116 99
Lumber	.....	754 16	509 46	266 20	309 63	939 20	23,088 06
Coal	10 05	611 88	541 57	362 35	693 56	433 85	2,788 20
Hardware	.....	91 34	148 58	950 82	887 31	284 00	2,643 21
Bridge and stop gate repairs and supplies	.....	436 04	406 86	40 51	664 94	.....	2,365 05
Lock repairs and supplies	.....	410 87	340 87	25 10	299 24	270 95	1,548 35
Telephone light and telegraph	581 50	346 36	.....	856 16	963 06	219 77	1,928 53
Electric light and power	13 50	38 68	10 46	33 25	49 01	118 70	2,398 85
Office furniture, stationery supplies, postage, etc.	240 53	.....	10 65	.....	21 70	138 94	390 63
Diving and diving supplies	.....	350 17	93 44	.....	115 43	191 00	191 29
Freight, cartage and towing	.....	3,822 33	684 88	98 80	304 40	746 08	848 84
Expense, traveling automobile, livery, etc.	.....	1,030 97	298 51	591 62	506 88	1,763 78	6,149 31
Ship chandlery, boat repairs and supplies	.....	311 26	371 54	213 82	233 75	1,29 28	3,783 96
Stone, cement, sewer pipe, etc.	.....	198 00	105 96	177 65	49 95	23 76	1,123 48
Rubber goods	.....	5,851 06	167 56	78 08	111 40	210 97	4,455 75
Paints and oils	.....	2,143 31	262 61	118 41	246 37	80 95	6,459 40
Equipment, machinery and machine repairs	.....	106 01	11 95	219 38	72 80	46 70	2,952 62
Miscellaneous	.....	.....	.....	100 88	.....	.....	338 14
Totals	\$3,934 09	\$40,882 29	\$14,766 72	\$16,840 52	\$9,246 17	\$20,989 88	\$106,659 67

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on Section 8 of the Erie Canal, under the charge of H. C. Watson, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Barge locks	6	\$444 00
Common locks	4	828 50
Lock-tending (exclusive of oil)		9,361 79
Waste-weirs		50 50
Culverts		4 50
Farm bridges (wood)		165 50
Road bridges (wood)	5	427 00
Road bridges (iron)—Barge bridges, 17; old bridges, 18		1,002 25
Foot bridges		48 50
State scow	1	124 25
Timber-sheds	2	67 50
Setting snubbing posts		42 32
Raising and repairing tow-path		136 00
Cleaning out bottom of canal during spring repairs		1,095 00
Cleaning out ditches		55 99
Watching canal		1,458 07
Other miscellaneous expenditures		1,526 70
Other work of consequence which does not come under any of the above heads, viz.:		
Disbursing clerk		675 00
Lock-master		1,165 75
Assistant lock-master (during the close of navigation)		1,678 82
Lock operators (during the close of navigation)		2,793 89
Watchman at Locks 26, 27 and 28-A		4,932 00
Watchman at State yard		450 00
Light tender at guard-gates		70 00
Cutting weeds and brush		61 50
Filing and publication		92 79
Total		\$28,758 12

REPAIRS AND IMPROVEMENTS.

BARGE LOCKS.

The grounds have been improved by planting flowers, shrubbery and trees. A building has been erected at Palmyra for the storage of emergency lock gates.

Iron railings at Lock No. 27, which were badly damaged by floods, have been repaired; new work benches have been constructed for Locks Nos. 26, 27 and 28-A.

No trouble has been experienced in the operation of machinery this season.

COMMON LOCKS.

All lock machinery was overhauled and repairs made where necessary.

Platforms at Locks Nos. 53, 55 and 56 were repaired by replacing all decayed timbers and planking with new.

No trouble has been experienced in the operation of common locks.

BRIDGES.

Old Canal Bridges Nos. 4, 6 and 7 and Wayneport and Freer's Barge bridges have been replanked. Also farm bridges across State ditch near Lock No. 54 and Bridge No. 7.

A new foot bridge has been constructed across by-pass at Lock No. 29 for the convenience of operators in reaching their work.

Bridge No. 11 was repaired by placing four new brace cords, splicing top cord and welding broken truss rods.

All railings and sidewalks have been kept in perfect repair and approaches graveled where necessary.

NAVIGATION.

On the night of June 16th an unusual amount of rain fell, causing Mud creek, which flows into the Barge canal at Lock No. 29, to rise very rapidly, filling the canal, which overflowed where the banks were low between Locks Nos. 29 and 28-B. A portion of the bank was washed away at the Port Gibson wide-waters, lowering the level to ten feet. Necessary repairs were immediately made with but little delay to navigation.

The swift current at the mouth of Mud creek caused the formation of a bar across the canal which, with the necessity of holding the water level at ten feet, delayed heavily loaded boats slightly until the bar could be removed by the State dredge.

During the flood one boat, becoming detached from a fleet by the snapping of a line, was washed partly over the Harrison spillway. One boat loaded with coal was sunk in the Port Gibson widewaters, caused by getting out of the channel, but did not delay navigation in any way.

Buoys were placed at the forks of the old canal and Barge canal east of Newark, also near Peek's bridge, for the guidance of boats.

PRISM OF CANAL.

Stones which had become loosened and fallen into prism of old canal were replaced in slope wall and all bars removed between Bridge No. 1 and change bridge east of Newark. Logs, stumps and brush were removed from Barge canal between Lock No. 30 and Wayneport dock.

RECOMMENDATIONS.

On account of the rapid rise of the water on the level between Locks Nos. 28-B and 29, caused by excessive rains along Mud creek and its tributaries, I would recommend that either three men be appointed to operate waste weir gates at Harrison's spillway and the guard gates which are located near the spillway, or the installation of a motor on a pier and controlling apparatus at some point where same could be controlled by lock operators.

I would also recommend that there be at least five men appointed as laborers, one acting as foreman, with headquarters at State yard, to take the place of the Palmyra State scow, which was abandoned a year ago.

H. C. WATSON,
Superintendent.

206 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on Section 9 of the Erie canal, under the charge of Jacob Allme-roth, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	7	\$1,059 28
Lock-tending (exclusive of oil) .....	.....	5,588 71
Road bridges (iron)	56	2,500 76
Aqueduct	1	.....
Waste-weirs	7	\$19 90
Culverts	39	.....
Weigh-lock	1	.....
Road bridges (wood)	2	.....
Tow-path bridges (iron)	2	.....
State scows	2	.....
Ice-breakers	2	.....
Lock-houses	7	.....
Watch-house	1	.....
Raising and repairing tow-path and berme bank, not including repairs to slope wall. . . . .	.....	1,403 59
Cleaning out bottom of canal during spring repairs .....	.....	800 25
Watching canal .....	.....	1,987 10
Wheelbarrows	64	.....
Waste-weir bridges	7	.....
Lift-bridges (iron)	16	728 62
Tending lift-bridges .....	.....	7,522 65
Tending stop-gates .....	.....	1,064 52
Tending stop-gate lights .....	.....	141 94
Watchmen at Barge canal locks .....	.....	3,288 00
Balance of work done by carpenter force, making snubbing posts .....	.....	49 50
Marsh road bridge, Cartersville; new concrete abutments and repairs to damage by spring floods .....	.....	469 14
Dismantling locks, bridges and stop-gates at end of season of navigation (1915) .....	.....	143 00
Placing and removing dam sticks in feeder during spring floods .....	.....	55 50
Repairing stop-gates .....	.....	168 25
Repairs, sundries .....	.....	211 20
Balance of work done by scows Nos. 1 and 2, setting snubbing posts .....	.....	57 70

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 9 of the Erie Canal — (Continued)

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Laying drain pipe at Brockport, N. Y.....	.....	\$370 70
Cutting weeds and brush.....	.....	408 49
Repairs; sundries .....	.....	148 02
Patrolman .....	.....	337 10
Disbursing clerk .....	.....	675 00
Publishing and filing abstracts.....	.....	181 79
Work done by extra (temporary) men during spring repairs, dismantling Bridge No. 90 .....	.....	150 12
Repairing highway, town of Brighton, adjacent to Rodman farm.....	.....	25 00
Closing gap of wash-out at South Greece...	.....	75 00
Removing boat hulls (old) at Eastern wide-waters .....	.....	294 75
Tools, including shovels, picks, crowbars, axes, etc.:		
Shovels	95	.....
Picks	21	.....
Crowbars	15	.....
Adze	1	.....
Scythes	30	.....
Scythes (bush)	12	.....
Total .....	.....	\$29,925 58

REPAIRS AND IMPROVEMENTS.

Navigation has not been interrupted with during season.

LEAKS.

Several minor leaks were reported by bank watchmen and proper repairs promptly made by scow forces.

One threatening leak (near Donnelly's culvert) has been repaired only temporarily, and will be dug out and permanently repaired during spring repairs, next spring.

SPRING REPAIRS.

New cement bottom has been laid and side walls pointed at Lock No. 63.

Spier's bridge (No. 90) has been abandoned and dismantled and highway continued on towpath for a distance of 1,200 feet west to Six-Mile-Grocery bridge.

Seven old boat hulls have been removed from Eastern Wide-Waters and several pieces of fallen vertical walls relaid.

MAJOR REPAIRS BY CARPENTER FORCE.

The following bridges (most of which formerly had the patent flooring) have been stripped to the iron and replanked new: Bushnell's Basin bridge, No. 50; Winton road bridge, No. 61; Ford street bridge, No. 78; Allen street bridge, No. 80; South Greece bridge, No. 94; Cromwell's bridge, No. 95; Hiscock's bridge, No. 96; Martha street bridge, No. 99; Riley's bridge, No. 100; Cressey's bridge, No. 102, and Barge canal bridges at East Henrietta road, West Henrietta road, Scottsville road, Brooks avenue, Chili avenue.

Supner's bridge (No. 56) and Donnelly's bridge (No. 59) are in a bad condition. Temporary repairs will be made to tide them over until such time as old canal is abandoned.

EQUIPMENTS.

This section is equipped with two State scows (one in good condition and the other in a decayed condition), two ice-breakers, and full sets of tools for scows and carpenter's forces.

RECOMMENDATIONS.

State Scow No. 1 is, I am informed, eighteen years old and is in a decayed condition. Repairs to this scow would be a waste of money. I recommend that in place of Scow No. 1, that this section be equipped with a steam propelled boat, to be equipped with a crane of the Browning type, double truck, standard gauge, Fogarty boom attachment, two-yard clam-shell, steel hammer and a portable pump; also two mud scows and one house-boat to go with fleet. This, in my opinion, would

be an up-to-date equipment and would pay for itself in a short time.

This equipment could be used for the following purposes:

Handling earth and stone for one-quarter the cost of hand labor.

In case of a serious leak, sheet-piling could be driven on short notice and a break avoided.

Lumber and timber could be handled at a very low cost.

With a twelve-foot waterway, boats with ten-foot sides would be submerged when sunk. This equipment would be very serviceable.

Difference of Cost of Operation of Scow No. 1 and New Equipment.

	Scow No. 1, per month.	New equipment, per month.
Captain	\$75 00	\$100 00
Cook	30 00	30 00
Teamster with team	104 00	.....
Engineer . . . . .	.....	104 00
Fireman . . . . .	.....	65 00
Pilot . . . . .	.....	75 00
Six laborers	312 00	.....
Four laborers . . . . .	.....	208 00
Coal . . . . .	.....	40 00
Oil and grease . . . . .	.....	15 00
Totals	\$521 00	\$637 00

I recommend that the lift bridges at Spencerport (No. 98), Adam's Basin (No. 103), Park avenue, Brockport (No. 107), and Main street, Brockport (No. 108), be stripped to the iron and replanked with four inches of oak, which has been ordered. (Roadway to be given a three-inch crown).

Barge canal bridge approaches are very narrow, due to rains, and several of the guard-rails are leaning, due to not enough filling. I recommend the widening of approaches. This work is not practical by boat; should be done by team.

This section has at least ten miles of wood guard rails which need repairs and paint from time to time. The State owns one of the best gravel-pits in the State at Cartersville. I recommend all future guard-rails be made of reinforced concrete of a suitable design. This would eliminate all future repairs and paintings.

I recommend that all culverts be numbered, by casting the number in a concrete monument of a suitable design over culvert.

All bridges should be numbered.

Wash-walls at several points have slid into prism of canal. At such points I recommend a wash-wall from prism of canal to top of bank.

Banks west of South Greece are very narrow and should be strengthened.

There are several boat hulls submerged at Brockport. I recommend they be drawn close to each other before navigation closes and burned next spring.

STOP-GATES.

Six watchmen have been appointed at Cartersville and Bushnell's Basin stop-gates at \$50 per month.

I recommend that the State build a small cottage, with telephone connection, at each stop-gate and pay one man \$75 per month at each stop-gate. The difference in a salary will soon pay for the building of the two cottages.

JACOB ALLMEROTH,
Superintendent.

ANNUAL REPORT, *showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on Section 10 of the Erie canal, under the charge of Frank Wilson, superintendent of repairs, during the 274 days ended June 30, 1916.*

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Locks	7	\$2,003 41
Lock-tending (exclusive of oil)		7,699 42
Lock-gates	26	.....
Aqueduct	1	.....
Waste-weirs	11	84 20
Culverts	62	553 11
Stop-gates	6	1,424 27
Farm bridges (wood)	55 {	7,560 00 1,920 29
Farm bridges (iron)		
Road bridges (wood)		
Road bridges (iron)		
Tow-path bridges (wood)		
Tow-path bridges (iron)	55 {	7,560 00 1,920 29
State scows	3	410 28
Small boats	4	.....
Cutting weeds		315 25
Boating lumber		289 45
Lock-house	1	.....
Work-shops	2	29 80
Store-house	1	.....
Sorting and piling lumber		149 11
Removing flood wood		73 93
Raising and repairing tow-path and berme bank, not including repairs to slope walls.		2,897 67
Cleaning out bottom of canal during spring repairs		313 00
Cleaning on ditches		442 03
Slope wall		629 40
Docking		197 60
Repairs of breaches or leaks		154 26
Caring for sunken boats		216 59
Watching canal banks		2,800 00
Other work of consequence which does not come under any of the above heads, viz.:		
Patrolman		617 50
Disbursing clerk		675 00
Watching State property		1,215 00

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on section 10 of the Erie Canal — (Continued)

STRUCTURES OR WORKS, ETC.	Whole number on section.	Total expenditures.
Watching Oak Orchard creek feeder and re- pairs	\$189 51
Watching Sulphur Spring guard-lock	80 60
Repairing State fences	77 70
Publishing and filing	271 89
Total	\$33,290 27

REPAIRS AND IMPROVEMENTS.

The bridges have been inspected from time to time and kept in good repair although considerable work has been found necessary on approaches, due to unusual amount of rain.

Waste weirs and stop gates have been cleaned and repaired.

New snubbing posts have been placed at various places.

Have had some slides on towpath due to rains but same have been cared for without any hindrance to navigation.

Towpath and docking between Lockport and Sulphur Spring guard lock has been repaired a great deal and much more repairing is needed there.

Culverts have been cleaned and repaired when necessary.

Sand bar in prism of canal at foot of Lock No. 34, caused by wash from lock, has been removed.

The gates at Sulphur Spring guard lock have been closed twice for high water and once for removal of sunken boats, and it has been found that a lock at this point would be very useful.

The mitre sill and concrete walls of Lock No. 35 are cracked badly and will need considerable attention, as it is affecting the operation of the valve at this lock.

The old locks at Lockport have been kept in condition for immediate operation. Have also been found very useful as a feeder.

The water levels have been maintained at point indicated by the department, notwithstanding the very heavy rains.

The section has been exceptionally free from serious accidents and there has been no obstruction to navigation other than noted above.

FRANK WILSON,
Superintendent.

ANNUAL REPORT, showing the name and number of structures or works, the different heads of expenditures, and the cost of each, on Section 11 of the Erie canal, under the charge of Richard Humphrey, superintendent of repairs, during the 274 days ended June 30, 1916.

STRUCTURES OR WORKS, ETC.	Whole section. number on	Total expenditures.
Lock-tending (exclusive of oil).....	.....	\$2,364 62
Bridge tending .....	.....	909 68
General repairs .....	.....	5,024 00
Sanitary watchman .....	.....	150 00
Change bridges	3	.....
Farm bridges (wood).....	35	.....
Farm bridges (iron).....	3	.....
Road bridges (wood).....	4	.....
Road bridges (iron).....	24	.....
Tow-path bridges (wood).....	4	.....
Tow-path bridges (iron).....	6	.....
State scows	3	.....
Disbursing clerk .....	.....	675 00
Traffic and water regulator.....	.....	177 42
Watching guard-lock, Black Rock.....	.....	50 00
Watching State yard.....	.....	900 00
Cleaning snow and ice from bridges, Tonawanda .....	.....	208 00
Bank watch .....	.....	675 07
Spring repairs .....	.....	1,696 50
Raising and repairing tow-path and berme bank, not including repairs to slope walls. ....	.....	3,097 67
Regulating traffic on bridges at Buffalo.....	.....	1,410 00
Canal patrolman .....	.....	370 81
Publishing abstract of expenditures.....	.....	60 00
Tending line and towing boats at Pendleton and New Home bridges.....	.....	930 00
Total .....	.....	\$18,698 77

REPAIRS AND IMPROVEMENTS

Nothing occurred to delay navigation on this section during the past year. The towpath was kept in good order scraped and cindered where needed on the section. The towpath slid into the canal at several places, all of which were repaired.

TOWPATH BRIDGES — CULVERTS.

All the towpath bridges and culverts between Tonawanda and Pendleton had been washed away by the high water of the spring freshet, but all had been rebuilt before navigation opened.

A new fence had been built along the bank between Sulphur Spring guard lock, and Pendleton, and half mile new road made.

SLOPE WALLS.

Considerable slope wall between Tonawanda and Pendleton had fallen into the canal, all of which was rebuilt with clay, stone and brick, and the bank riprapped. About a mile of new towpath made and surfaced with cinders between Pickard bridge and New Home bridge.

About 400 feet of road on the berme bank near Martinsville, slid into the canal, and a new road had to be made.

About 600 feet of road at Wendelville, on the berme bank, slid into the canal, and a new road through private property had to be made.

All bridges were replanked and otherwise repaired when necessary, new joist were placed in Hamilton and Lloyd street bridges, and new railings were installed on both sides of Commercial street bridge approach.

All weeds and grass were cut on the entire section.

RECOMMENDATIONS.

That the bank between the canal and the street, for about 1,500 feet, in front of Riverside Park, be terraced. This would have a tendency to prevent the bank from sliding into the canal, and it would also add to the appearance in front of the park.

That a concrete coping be placed on the edge of the canal bank for about a mile between Lock No. 72 and Commercial street.

That the towpath bridge over Tonawanda creek at Pendleton be rebuilt.

R. HUMPHREY,

Superintendent.

T A B L E S

ACCOMPANYING THE

Annual Report of the Superintendent of Public Works

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TABLE

Exhibiting the date of the opening and closing of the Hudson river, and the number of days open; also the time of commencement and close of each navigable season of canals, and the number of days of navigation since 1824; also the date of the opening of Lake Erie since 1827.

OPENING AND CLOSING OF THE HUDSON RIVER			COMMENCEMENT AND CLOSE OF NAVIGATION			
River open	River closed	Days open	Canal open	Canal closed	Navigable days	Opening of Lake Erie
March 3, 1824.....	January	309	April 30, 1824.....	December	4, 1824....	.....
March 6, 1825.....	December 13, 1825....	283	April 12, 1825.....	December 5, 1825....	219	.....
February 25, 1826....	December 13, 1826....	302	April 25, 1826.....	December 18, 1826....	238	.....
March 20, 1827.....	November 25, 1827....	251	April 22, 1827.....	December 18, 1827....	243	.....
February 8, 1828.....	December 23, 1828....	220	March 27, 1828.....	December 20, 1828....	241	April 1, 1827
April 1, 1829.....	January 14, 1830.....	286	May 2, 1829.....	December 17, 1829....	269	April 1, 1828
March 15, 1830.....	December 25, 1830....	283	April 30, 1830.....	December 17, 1830....	230	May 10, 1829
March 15, 1831.....	December 6, 1831.....	262	April 16, 1831.....	December 1, 1831....	242	May 5, 1830
March 25, 1832.....	December 31, 1832....	289	April 25, 1832.....	December 21, 1832....	230	May 8, 1831
March 21, 1833.....	December 13, 1833....	277	April 9, 1833.....	December 12, 1833....	241	April 23, 1832
February 29, 1834....	December 30, 1834....	291	April 17, 1834.....	December 12, 1834....	240	April 6, 1833
March 25, 1835.....	November 30, 1835....	268	April 15, 1835.....	November 30, 1835....	230	May 8, 1835
April 4, 1836.....	December 7, 1836....	244	April 25, 1836.....	November 26, 1836....	216	April 16, 1837
March 25, 1837.....	December 14, 1837....	261	April 20, 1837.....	December 9, 1837....	234	May 16, 1837
March 19, 1838.....	November 18, 1838....	287	April 11, 1838.....	December 25, 1838....	228	March 31, 1838
March 25, 1839.....	November 18, 1839....	286	April 20, 1839.....	December 16, 1839....	241	April 11, 1839
February 25, 1840....	November 18, 1840....	285	April 20, 1840.....	December 9, 1840....	228	April 27, 1840
March 24, 1841.....	November 19, 1841....	288	April 24, 1841.....	November 30, 1841....	222	April 14, 1841
February 4, 1842.....	November 20, 1842....	308	April 20, 1842.....	November 28, 1842....	222	March 7, 1842
April 13, 1843.....	December 10, 1843....	292	May 1, 1843.....	November 30, 1843....	214	May 6, 1843
March 18, 1844.....	December 1, 1844....	278	April 15, 1844.....	November 26, 1844....	225	March 14, 1844
February 24, 1845....	December 3, 1845....	293	April 15, 1845.....	November 29, 1845....	226	March 13, 1845
March 18, 1846.....	December 14, 1846....	275	April 16, 1846.....	November 25, 1846....	224	April 13, 1846
February 17, 1847....	December 25, 1847....	293	May 1, 1847.....	November 30, 1847....	234	April 23, 1847
March 22, 1848.....	December 27, 1848....	292	May 1, 1848.....	December 5, 1848....	223	April 23, 1848
March 19, 1849.....	December 26, 1849....	292	May 1, 1849.....	December 5, 1849....	219	March 25, 1849
March 10, 1850.....	December 17, 1850....	282	April 22, 1850.....	December 11, 1850....	234	March 25, 1850
February 25, 1851.....	December 14, 1851....	293	April 15, 1851.....	December 5, 1851....	235	April 2, 1851

Table exhibiting the date of the opening and closing of the Hudson river, etc.—(Concluded)

OPENING AND CLOSING OF THE HUDSON RIVER			COMMENCEMENT AND CLOSE OF NAVIGATION			Opening of Lake Erie.
River open.	River closed	Days open	Canal open	Canal closed.	Navigable days	
March 28, 1852.....	December 23, 1852.....	270	April 20, 1852.....	December 15, 1852.....	230	April 20, 1852
March 28, 1853.....	December 21, 1853.....	274	April 20, 1853.....	December 20, 1853.....	245	April 14, 1853
March 17, 1854.....	December 8, 1854.....	266	May 1, 1854.....	December 3, 1854.....	217	April 26, 1854
March 27, 1855.....	December 20, 1855.....	268	May 1, 1855.....	December 10, 1855.....	224	April 21, 1855
April 11, 1856.....	December 14, 1856.....	248	May 5, 1856.....	December 4, 1856.....	214	April 9, 1856
February 27, 1857.....	December 27, 1857.....	302	May 6, 1857.....	December 16, 1857.....	223	April 27, 1857
March 20, 1858.....	December 17, 1858.....	273	April 28, 1858.....	December 8, 1858.....	222	April 16, 1858
March 13, 1859.....	December 10, 1859.....	273	April 15, 1859.....	December 12, 1859.....	222	April 17, 1859
March 6, 1860.....	December 14, 1860.....	283	April 25, 1860.....	December 10, 1860.....	232	April 17, 1860
April 4, 1861.....	December 13, 1861.....	294	May 1, 1861.....	December 10, 1861.....	224	April 13, 1861
April 3, 1863.....	December 19, 1862.....	259	May 1, 1863.....	December 9, 1862.....	224	April 15, 1862
April 11, 1864.....	December 12, 1864.....	252	May 30, 1864.....	December 8, 1864.....	223	April 13, 1864
March 22, 1865.....	December 16, 1865.....	270	May 1, 1865.....	December 12, 1865.....	226	April 20, 1865
March 20, 1866.....	December 15, 1866.....	270	May 1, 1866.....	December 12, 1866.....	226	April 23, 1866
March 26, 1867.....	December 8, 1867.....	257	May 6, 1867.....	December 20, 1867.....	229	April 21, 1867
March 24, 1868.....	December 5, 1868.....	252	May 6, 1868.....	December 7, 1868.....	217	April 19, 1868
March 5, 1869.....	December 9, 1869.....	248	May 6, 1869.....	December 10, 1869.....	218	May 1, 1869
March 31, 1870.....	December 17, 1870.....	261	May 10, 1870.....	December 1, 1870.....	213	April 10, 1870
March 12, 1871.....	November 29, 1871.....	263	May 24, 1871.....	December 1, 1871.....	220	April 1, 1871
April 7, 1872.....	December 9, 1872.....	247	May 13, 1872.....	December 1, 1872.....	205	May 6, 1872
April 16, 1873.....	November 22, 1873.....	221	May 15, 1873.....	December 5, 1873.....	202	May 29, 1873
March 10, 1874.....	December 27, 1874.....	269	May 15, 1874.....	December 5, 1874.....	216	April 18, 1874
April 13, 1875.....	November 29, 1875.....	229	May 18, 1875.....	December 30, 1875 (by ice)	207	April 18, 1875
April 1, 1876.....	December 2, 1876.....	245	May 18, 1876.....	December 5, 1876.....	211	May 12, 1876
March 30, 1877.....	December 31, 1877.....	275	May 8, 1877.....	December 7, 1877.....	214	May 12, 1876
March 14, 1878.....	December 30, 1878.....	282	April 15, 1878.....	December 7, 1878.....	237	April 17, 1877
March 4, 1879.....	December 20, 1879.....	261	May 8, 1879.....	December 6, 1879.....	212	March 24, 1878
March 5, 1880.....	November 25, 1880.....	266	April 20, 1880.....	December 6, 1879.....	216	April 24, 1879
March 21, 1881.....	January 2, 1882.....	288	May 17, 1881.....	November 21, 1880 (by ice)	206	March 19, 1880
March 8, 1882.....	December 15, 1882.....	273	April 11, 1882.....	December 8, 1881.....	241	May 1, 1881
March 29, 1883.....	December 15, 1883.....	261	May 7, 1883.....	December 7, 1882.....	208	March 20, 1882
March 7, 1884.....	December 19, 1884.....	269	May 6, 1884.....	December 1, 1883.....	209	May 4, 1883
April 26, 1885.....	December 7, 1885.....	247	May 11, 1885.....	December 1, 1884.....	205	April 25, 1884
March 30, 1886.....	December 3, 1886.....	248	May 1, 1886.....	December 1, 1885.....	214	May 2, 1885
				December 1, 1886.....		April 25, 1886

April 6, 1887	December 28, 1887	258	May 7, 1887	December 1, 1887	209	April 17, 1887
April 7, 1888	December 14, 1888	252	May 10, 1888	December 3, 1888	208	April 14, 1888
April 10, 1889	Open all winter	284	May 1, 1889	November 30, 1889	214	April 10, 1889
March 24, 1890	December 23, 1890	277	April 28, 1890	November 30, 1890	217	March 31, 1890
March 24, 1891	December 23, 1891	266	May 5, 1891	December 5, 1891	215	April 13, 1891
April 1, 1892	December 22, 1892	280	May 1, 1892	December 5, 1892	219	April 10, 1892
April 1, 1893	December 26, 1893	281	May 3, 1893	November 30, 1893	212	April 15, 1893
March 18, 1894	December 28, 1894	252	May 1, 1894	November 30, 1894	214	April 15, 1894
April 2, 1895	December 18, 1895	256	May 3, 1895	December 5, 1895	216	April 28, 1895
April 7, 1896	December 17, 1896	252	May 1, 1896	December 1, 1896	215	April 4, 1896
April 29, 1897	December 16, 1897	223	May 7, 1897	December 1, 1897	208	April 19, 1897
April 13, 1898	December 13, 1898	244	May 8, 1898	December 10, 1898	217	April 6, 1898
April 17, 1899	December 16, 1899	242	May 25, 1899	December 1, 1899	220	April 25, 1899
April 17, 1900	December 1, 1900	246	April 25, 1900	December 1, 1900	220	April 22, 1900
April 9, 1901	December 1, 1901	248	May 27, 1901	November 30, 1901	207	April 20, 1901
March 28, 1902	December 8, 1902	268	May 24, 1902	December 4, 1902	224	April 9, 1902
March 14, 1903	December 2, 1903	263	May 2, 1903	November 28, 1903	210	April 6, 1903
April 4, 1904	December 13, 1904	244	May 5, 1904	November 28, 1904	205	May 10, 1904
April 3, 1905	December 15, 1905	237	May 2, 1905	November 28, 1905	209	April 22, 1905
March 22, 1906	December 5, 1906	250	May 2, 1906	November 28, 1906	211	April 15, 1906
March 29, 1907	December 6, 1907	271	May 1, 1907	December 10, 1907	224	April 6, 1907
March 23, 1908	December 18, 1908	283	May 15, 1908	November 30, 1908	210	April 25, 1908
March 15, 1909	December 22, 1909	278	May 15, 1909	November 13, 1909	185	April 15, 1909
March 11, 1910	January 3, 1910	288	May 15, 1910	November 13, 1910	185	April 15, 1910
March 22, 1911	February 6, 1912	318	May 15, 1911	November 13, 1911	185	April 15, 1911
March 26, 1912	February 29, 1913	287	May 13, 1912	December 1, 1912	172	April 28, 1912
March 17, 1913	December 22, 1914	267	* June 1, 1913	December 1, 1913	201	April 13, 1913
March 31, 1914	December 22, 1915	278	† May 15, 1914	December 30, 1915	200	April 14, 1914
March 18, 1915	December 17, 1916	259	May 15, 1915	November 30, 1915	200	April 15, 1915
April 3, 1916			May 15, 1916	November 30, 1916	200	April 16, 1916

* Erie canal opened June 13th, 1913.
 * Champlain canal opened May 15th, 1913.
 * Cayuga and Seneca and Black River canals opened June 1st, 1913.
 † Western Division, Erie canal, opened May 25th, 1914.
 ‡ Black River canal opened June 1st, 1914.
 † Cayuga and Seneca canal closed November 15th, 1914.
 Champlain canal opened May 1st, 1915.
 Black River canal opened June 1st, 1915.

222 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

STATEMENT of the number of locks, their lift in feet, total lockage of each canal, etc., of all the canals in the State of New York as they existed before the so-called Barge canal improvement.

NAME OF CANAL.	Length in miles.	Lockage in feet.
Erie canal	351.78	655.80
Navigable feeders of same	3.35	
Champlain canal	66.00	179.50
Pond above Troy dam	3.00	
Glens Falls feeder and pond	12.00	132.00
Black River canal	35.33	1,082.25
Black River feeder	13.47	
Black River improvement	42.50	
Oneida Lake canal		62.00
Oswego canal	38.00	154.85
Oneida river improvement	20.00	7.85
Seneca river towing-path	5.00	
Baldwinsville canal	1.00	8.00
Cayuga and Seneca canal	22.77	76.61
Cayuga inlet	2.00	
Total	622.20	2,357.86

NAME OF CANAL.	SITE OF CANAL.				NUMBER AND SIZE OF LOCKS.			Average burden of boats.	Maximum burden of boats.
	Length in miles.	Width on surface.	Width on bottom.	Depth of water.	Number of locks.	Length be- tween quins.	Width in clear.		
Erie canal	363	40	28	4	83	90	15	70	76
Enlargement of same	351	70	56	7	72	110	18	210	240
Oswego canal	38	40	24	4	18	90	15	70	76
Enlargement of same	38	70	56	7	18	110	18	210	240
Cayuga and Seneca canal	21	40	24	4	10	90	16	70	76
Enlargement of same	23	70	56	7	11	110	18	210	240
Champlain canal	66	50	35	5	20	110	18	85	120
Glens Falls feeder	12	50	35	5	12	100	18	80	85
Pond above Troy dam	3				1				
Black River canal and feeder	50	42	26	4	100	90	15	70	76
Black River improvement	42				1	110	18	70	76
Oneida River improvement	20	80	60	4	2	120	30	70	66
Oneida Lake canal	70	70	56	7	7	110	18	220	220
Baldwinsville and Seneca tow-path	5	40	24	4	1	90	15	70	76

ERIE CANAL.

REMARKS.	Old canal (not now in existence).	Enlargement.
Construction authorized.....	April 15, 1817....	May 11, 1835.
Construction commenced.....	July 4, 1817.....	August, 1836.
Construction completed.....	October 26, 1825..	September, 1862.
Estimated cost at engineer's prices.....	\$4,926,738.....	\$23,402,803.
Actual cost of construction.....	\$7,143,789.....	\$44,465,414.
Total feet of lockage.....	675½.....	655 80-100 feet.
Length from Albany to Buffalo.....	363 miles.....	351½ miles.
Number of locks and size of chambers..	83 locks, 90x115..	72 locks, 110x18.
Size of prism.....	40 and 28x4.....	70 and 56x7.
Maximum dimension of boats.....	78 62-100x14 46-100x3½, draft..	98 x 17.5 - 12x6 ft. draft.
Burden of boats.....	75 tons.....	240 tons.

Counties through which the Erie canal runs — Albany, Cayuga, Erie, Herkimer, Madison, Monroe, Montgomery, Niagara, Onondaga, Oneida, Orleans, Saratoga, Schenectady and Wayne.

LOCKS.

No. of lock.	Double or single.	Lift.	No. of lock.	Double or single.	Lift.	No. of lock.	Double or single.	Lift.
1.....	Double...	15½	25.....	Double...	8	49.....	Double...	6
2.....	Double...	9½	26.....	Double...	8	50.....	Double...	6 11-12
3.....	Double...	11½	27.....	Double...	8	51.....	Double...	5½
4.....	Double...	11½	28.....	Double...	8	52.....	Double...	11
5.....	Double...	10	29.....	Double...	7	53.....	Double...	6
6.....	Double...	10	30.....	Double...	10½	54.....	Double...	7½
7.....	Double...	10	31.....	Double...	6	55.....	Double...	6
8.....	Double...	10	32.....	Double...	8	56.....	Double...	10
9.....	Double...	10	33.....	Double...	6	57.....	Double...	8
10.....	Double...	10	34.....	Double...	8	58.....	Double...	8
11.....	Double...	10	35.....	Double...	8	59.....	Double...	8
12.....	Double...	10	36.....	Double...	10	60.....	Double...	10
13.....	Double...	10	37.....	Double...	10	61.....	Double...	9
14.....	Double...	10	38.....	Double...	9½	62.....	Double...	9
15.....	Double...	10	39.....	Double...	10½	63.....	Double...	9
16.....	Double...	10	40.....	Double...	8	64.....	Double...	10
17.....	Double...	10	41.....	Double...	8	65.....	Double...	10
18.....	Double...	10½	42.....	Double...	8	66.....	Double...	9
19.....	Double...	8½	43.....	Double...	8	67.....		
20.....	Double...	10	44.....	Double...	10½	68.....		
21.....	Double...	11½	45.....	Double...	10½	69.....	Double...	55 10-12
22.....	Double...	11½	46.....	Double...	3	70.....		
23.....	Double...	8	47.....	Double...	10½	71.....		
24.....	Double...	8	48.....	Double...	10½	72 gd. Blk. Rk. & Buf.	Double...	2

For data as to enlargement under so-called Barge canal improvement, see preceding pages.

LOCATION OF LOCKS.

COUNTIES.	Number of locks.	COUNTIES.	Number of locks.
Albany	1 to 18 inclusive.	Onondaga	47 to 51, inclusive.
Saratoga	19 and 20	Cayuga	52.
Schenectady	21 to 25, inclusive.	Wayne	53 to 60, inclusive.
Montgomery	26 to 34, inclusive.	Ontario	61 to 66, inclusive.
Herkimer	35 to 45, inclusive.	Monroe	67 to 71, inclusive.
Oneida	46	Orleans	
Madison		Niagara	

CHAMPLAIN CANAL AND GLENS FALLS FEEDER.

Construction authorized.....	April 15, 1817.
Glens Falls feeder authorized.....	April, 1822.
Estimated cost of canal at engineer's prices.....	\$371,000.
Navigation opened from Fort Edward to Lake Champlain.....	November 24, 1819.
Canal completed from Waterford to Lake Champlain.....	1822.
Canal, cost of construction up to 1827.....	\$921,011.
Feeder, cost of construction up to 1837.....	\$91,944.
Total cost of both included improvements, exclusive of ordinary repairs, June, 1868.....	\$2,378,910.
Number of locks on canal, 20; feeders, 13.....	Size, 110x18 and 100x15.
Length of canal, 66 miles; feeder, 7 miles; pond, 5 miles....	78 miles.
Size of prism, canal and feeder.....	40.26x4.
Size authorized, chapter 213, Laws of 1860.....	50.35x5.
Total cost, including improvements and enlargement, up to 1875.....	\$4,044,000.

Counties through which the Champlain canal runs — Rensselaer, Saratoga, Warren and Washington.

The Glens Falls feeder is located in the counties of Warren and Washington.

For data as to enlargement under the so-called Barge canal improvement, see preceding pages.

LOCKS.

CHAMPLAIN CANAL.						GLENS FALLS FEEDER.			
No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.
1.....	10½	8.....	8½	15.....	8	1.....	10	8.....	10
2.....	10½	9.....	10	16.....	7	2.....	10	9.....	10
3.....	9½	10.....	9½	17.....	2½	3.....	10	10.....	10
4.....	9	11.....	11½	18.....	9	4.....	10	11.....	11
5.....	9	12.....	9	19.....	9	5.....	10	12.....	12
6.....	9	13.....	10½	20.....	10	6.....	10	13.....	10
7.....	9½	14.....	6			7.....	10		

BLACK RIVER CANAL FEEDER AND BLACK RIVER IMPROVEMENT.

Construction authorized.....	April 19, 1836.
Construction commenced.....	January, 1838.
Estimated cost at engineers' prices.....	\$1,068,437.
Estimated cost at contract prices.....	\$2,431,069.
Canal completed.....	1849.
Cost of construction.....	\$3,581,954.
Number and size of locks.....	109 locks; 90x15.
Length of canal to Lyons Falls.....	35 miles.
Length of river to Carthage and fall.....	42 miles; 9¼ feet.
Size of prism of canal and feeder.....	42 and 28x4.
Length of navigable feeder, and fall.....	10½ miles; 6 10-100 feet.
Burden of boats.....	45 to 50 tons.
Lockage of canal.....	1,082¼ feet.

LOCKS.

No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.
1.....	10	29.....	10	56.....	10	83.....	9
2.....	10	30.....	10	57.....	10	84.....	9
3.....	10	31.....	10	58.....	10	85.....	10
4.....	10	32.....	10	59.....	10	86.....	11½
5.....	10	33.....	10	60.....	10	87.....	10
6.....	10	34.....	10	61.....	10	88.....	10
7.....	10	35.....	10	62.....	10	89.....	10
8.....	11	36.....	10	63.....	10	90.....	10
9.....	12	37.....	10	64.....	10	91.....	12
10.....	11	38.....	10	65.....	10	92.....	10
11.....	11	39.....	10	66.....	10	93.....	10
12.....	11	40.....	10	67.....	10	94.....	10
13.....	8	41.....	10	68.....	9	95.....	10
14.....	8	42.....	10	69.....	9	96.....	10
15.....	8	43.....	10	70.....	9	97.....	10
16.....	10	44.....	10	71.....	10	98.....	10
17.....	8	45.....	10	72.....	10	99.....	10
18.....	10	46.....	10	73.....	10	100.....	10
19.....	8	47.....	10	74.....	10	101.....	10½
20.....	10	48.....	10	75.....	10	102.....	10¾
21.....	10	49.....	10	76.....	10	103.....	4
22.....	10	50.....	10	77.....	10	104.....	10
23.....	10	51.....	10	78.....	10	105.....	10
24.....	10	52.....	10	79.....	10	106.....	11
25.....	10	53.....	10	80.....	9	107.....	11
26.....	10	54.....	10	81.....	9	108.....	12
27.....	10	55.....	10	82.....	9	109.....	12
28.....	10	.....	.....	.....	.....	.....	.....

Counties through which the Black River canal runs — Oneida and Lewis.

OSWEGO CANAL.

REMARKS.	Oswego canal.	Enlarged Oswego canal.
Construction authorized.....	April 20, 1825....	April 15, 1854.
Enlargement of locks.....		Ch. 202, Laws of 1847.
Estimates cost at engineers' prices..	\$277,000.....	\$1,926,336.
Estimated cost at contract prices.....	\$437,000.....	\$2,051,190.
Construction completed.....	December 10, 1828.	September, 1862.
Cost of construction.....	\$565,473.....	\$4,427,589.
Number of locks and size.....	18, 90x15.....	17, 110x18.
Feet of lockage.....	154, 85 feet.....	154, 85 feet.
Average cost of one lock.....	\$10,000.....	\$31,000.
Size of prism of canal.....	40 and 26x4.....	70 and 56x7 feet.
Guard locks.....	Six.....	Five.
Burden of boats.....	50 to 75 tons....	230 tons.
Length of canal.....	38 miles.....	38 miles.

LOCKS.

No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.
1.....	11	4.....	9.6 {	8.....	11½	12.....	11½	16.....	8½
2.....	11	5.....		9.....	7½	13.....	5.65	17.....	10½
3.....	10½	6.....		10.....	9	14.....	9½	18.....	9½
		7.....	5.866	11.....	11½	15.....	5½		

Counties through which the Oswego canal runs — Onondaga and Oswego.

For data as to enlargement under the so-called Barge canal improvement, see preceding pages.

CAYUGA AND SENECA CANAL — CAYUGA INLET.

REMARKS.	Cayuga and Seneca canal.	Cayuga inlet.
Construction authorized, enlargement of locks	April 20, 1825....	May 25, 1836.
Enlargement of prism.....		April 15, 1854.
Estimated cost at engineers' prices..	\$811,188	150,000.
Estimated cost at contract prices...	\$795,272	\$160,396.
Canal completed	November 15, 1828.	September, 1862.
Cost of construction.....	\$2,010,320	\$214,000.
Number of locks and size.....	11, 110x18	1, 110x18.
Feet of lockage.....	83½	
Length and size of prism.....		24¾ miles, 70 and 56x7.

LOCKS.

No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.	No.	Lift.
1.....	7.28	4.....	9	6.....	9.60	8.....	5.70	10.....	10
2.....	7	5.....	9	7.....	6	9.....	10	11.....	3
3.....	10								

Counties through which the Cayuga and Seneca canal runs — Cayuga, Seneca and Ontario.

For data as to enlargement under the so-called Barge canal improvement, see preceding pages.

TABLE OF DISTANCES

HUDSON RIVER AND IMPROVED ERIE CANAL

	Place to place.	From New York.	From Buffalo.
New York City, pier 5 and 6, East river.....	.....	.00	506.72
Dobbs Ferry.....	23.80	23.80	482.92
Erie railroad docks.....	2.20	26.0	480.72
Tarrytown.....	2.30	28.3	478.42
Nyack.....	9	20.2	477.52
Ossining.....	4.6	33.8	472.92
Haverstraw.....	4.0	37.8	468.92
Peekskill.....	7.1	44.9	461.82
West Point.....	7.4	52.3	454.42
Cold Spring.....	2.6	54.9	451.82
Cornwall Landing.....	2.6	57.5	449.22
Newburgh.....	3.6	61.1	445.62
Fishkill.....	.3	61.4	445.32
New Hamburg.....	6.4	67.8	438.92
Poughkeepsie.....	7.9	75.7	431.02
Kingston, on side line 1.2 miles long.....	16.4	92.1	417.02
Rhinecliff.....	15.3	91.0	415.72
Saugerties.....	10.5	101.5	405.22
Catskill.....	10.6	112.1	394.62
Athens.....	4.1	116.2	390.52
Hudson.....	.2	116.4	390.32
Coxsackie.....	6.9	123.3	383.42
New Baltimore.....	6.4	129.7	377.02
Coeymans.....	2.0	131.7	375.02
Castleton.....	4.0	135.7	371.02
Rensselaer, Ferry street.....	7.7	143.4	363.32
Albany, Madison avenue.....	0.4	143.8	362.92
Albany terminal.....	1.0	144.8	361.92
Rensselaer, Forbes avenue.....	1.0	144.8	361.92
Troy, Washington street terminal.....	5.1	149.9	356.82
Watervliet, at ferry.....	.2	150.1	356.62
Troy, upper terminal.....	.4	150.5	356.22
Troy, Federal lock.....	1.43	151.93	354.79
Cohoes terminal, Ontatio street.....	1.67	153.60	353.12
Mohawk river below Union bridge.....	.78	154.38	352.34
Waterford—junction Erie and Champlain canals.....	.12	154.5	352.22
Waterford, Third street terminal.....	.12	155.2	351.52
Lock No. 2, Erie canal.....	.28	155.48	351.24
Lock No. 3, Erie canal.....	.62	156.1	350.62
Lock No. 4, Erie canal.....	.16	156.26	350.46
Lock No. 5, Erie canal.....	.28	156.54	350.18
Lock No. 6, Erie canal.....	.63	157.17	349.55
Guard gate No. 2.....	1.33	158.50	348.22
Crescent terminal.....	2.39	160.89	345.83
Dunsbach Ferry.....	2.28	163.17	343.55
Fort's Ferry.....	2.80	165.9	331.90
Vischer's Ferry.....	1.47	167.37	339.35
Lock No. 7.....	3.83	171.2	335.52
Rexford (aqueduct).....	4.6	175.8	330.92
Schenectady terminal.....	2.4	178.2	328.52
Lock No. 8, Scotia.....	4.40	182.60	324.12
Rotterdam Junction (west).....	.42	183.02	323.70
Lock No. 9.....	1.38	184.40	322.32
Hoffman's Ferry (north shore).....	4.40	188.80	317.92
Pattersonville (south shore).....	.38	189.18	317.54
Cranesville.....	2.72	191.90	314.82
Lock No. 10, Cranesville.....	1.33	193.23	313.49
Amsterdam terminal.....	1.77	195.00	311.72
Lock No. 11, Guy Park.....	2.75	197.75	308.97
Akin.....	.05	197.80	308.92
Fort Hunter, bridge.....	5.10	202.90	303.82
Lock No. 12, Tribes Hill.....	4.58	207.48	299.24
Fultonville (south shore).....	.62	208.10	298.62
Fonda (north shore).....	.18	208.28	298.44
Lock No. 13, Yosts.....	3.42	211.7	295.02
Randall P. O. (south shore).....			
Yosts (north shore).....			
Sprakers Ferry.....			

HUDSON RIVER AND IMPROVED ERIE CANAL — (Continued)

	Place to place.	From New York.	From Buffalo.
Canajoharie terminal.....	3.10	{ 214.8 }	291.92
Palatine Bridge (north shore).....		{ 214.8 }	
Lock No. 14.....	.58	215.38	291.34
Fort Plain terminal.....	2.92	{ 218.3 }	238.42
Nelliston (north shore).....		{ 218.3 }	
Lock No. 15.....	.43	218.73	287.99
St. Johnsville terminal.....	5.25	223.98	282.74
Lock No. 16.....	1.46	225.44	281.28
Mindenville, bridge.....	.26	225.70	281.02
Guard gate No. 3, Erie, Indian Castle.....	3.1	228.8	277.92
Lock No. 17, Little Falls.....	4.41	233.21	273.51
Lift bridge, Little Falls.....	.71	233.92	272.80
Guard gate No. 4, Little Falls.....	.18	234.10	272.62
Terminal, Little Falls.....	.30	234.4	272.32
Lock No. 18, Jacksonburg.....	3.00	237.4	269.32
Bridge No. 139, Jacksonburg.....	.30	237.7	269.02
Mohawk guard gate No. 5.....	3.83	{ 241.53 }	265.19
Mohawk Junction lock, Utica line.....		{ 241.53 }	
Herkimer terminal.....	.17	241.7	265.02
Ilion terminal.....	1.80	243.5	263.22
Frankfort terminal.....	2.90	246.4	260.32
Lock No. 19.....	3.00	249.4	257.32
Utica, terminal lock.....	7.20	256.6	250.12
Utica terminal (side line).....	.70	257.30	250.8
Whitesboro, bridge.....	2.20	258.80	247.92
Lock No. 20.....	.88	259.08	247.04
Oriskany, bridge.....	2.42	262.1	244.62
Guard gate No. 6, Erie canal.....	4.20	266.3	240.42
Rome terminal.....	3.00	269.3	237.42
Guard gate No. 7, Erie canal.....	.15	{ 269.45 }	237.27
Junction lock to Utica line.....		{ 269.45 }	
Junction lock to Black River canal.....	.10	269.55	237.17
New London junction lock, Syracuse line.....	6.31	275.86	230.86
Lock No. 21.....	2.04	277.90	228.82
Lock No. 22.....	1.35	279.25	227.47
Sylvan Beach (north side).....	4.35	283.60	223.12
Cleveland.....	8.5	292.7	216.02
Constantia.....	6.6	299.3	209.42
Fort Brewerton (north shore).....	7.5	306.2	201.92
Fort Brewerton (north shore).....	21.2	304.8	201.92
Brewerton terminal.....	.2	305.0	201.72
Lock No. 23.....	2.9	307.9	198.82
Oak Orchard, bridge.....	2.9	310.8	195.92
Oswego canal junction, east (Three River Point).....	3.81	314.61	192.11
Three River Point dock.....	.09	314.7	192.02
West Junction.....	.2	314.9	191.82
Belgium, bridge.....	1.8	316.7	190.02
Cold Spring bridge, east junction Syracuse branch.....	4.70	321.4	185.32
Long Branch, dock.....	.95	322.35	185.77
Lake entrance, side line.....	.45	322.8	186.22
Liverpool.....	2.00	324.8	188.22
Syracuse terminal.....	3.40	328.20	191.62
West Junction, Syracuse branch.....	.50	321.9	184.82
Lock No. 24, Baldwinsville.....	4.55	326.65	180.07
State ditch, bridge.....	8.80	335.45	171.27
Jones Point, Cross Lake entrance.....	1.73	337.18	169.54
Iron bridge, Jordan.....	2.12	339.3	167.42
Bontas bridge.....	1.87	341.17	165.55
Weedsport terminal.....	2.03	343.2	163.52
Port Byron (free bridge).....	4.10	347.3	159.42
Fox Ridge (Campbell's bridge).....	3.50	350.8	155.92
Montezuma (aqueduct).....	4.58	355.38	151.34
Cayuga and Seneca canal, east junction.....	.52	355.9	150.82
Cayuga and Seneca canal, west junction.....	.30	356.2	150.52
Lock No. 25, May's Point.....	1.20	357.4	149.32
Lock No. 26.....	5.84	363.24	143.48
Clyde, viaduct.....	2.36	365.6	141.12
Lyons terminal.....	9.60	375.2	131.52
Lock No. 27.....	.10	375.3	131.42

HUDSON RIVER AND IMPROVED ERIE CANAL — (Concluded)

	Place to place.	From New York.	From Buffalo.
Lock No. 28-A	1.27	376.57	130.15
Poor House	1.08	377.65	129.07
Lock No. 28-B	2.85	380.5	126.22
Newark terminal	1.40	380.9	125.82
Port Gibson	3.40	384.3	122.42
Guard gate No. 8	1.68	385.98	120.74
Palmyra, lock No. 29	4.22	390.2	116.52
Macedon, lock No. 30	3.00	393.2	113.52
Waynesport	3.00	396.2	110.52
Fairport dock			
Lift bridge No. 2	4.63	{ 400.83 }	105.89
Guard gate No. 9	3.27	{ 400.83 }	102.62
Bushnell's Basin, bridge .....	.64	404.1	101.98
Cartersville, bridge	1.66	406.4	100.32
Guard gate No. 10	1.10	406.50	100.22
Pittsford, dock wall	1.20	407.7	99.02
Lock No. 32	2.10	409.8	96.92
Lock No. 33 .....	.80	410.6	96.12
Guard lock, east	3.60	414.2	92.52
Centre of river .....	.50	414.7	92.02
Rochester terminal (side line)	3.20	417.9	95.22
Guard lock, west .....	.50	415.2	91.52
South Greece	6.60	421.8	84.92
Guard gate No. 11	2.30	424.1	82.62
Spencerport terminal			
Lift bridge No. 3	1.30	{ 425.4 }	81.32
Adams Basin, dock		{ 425.4 }	
Adams Basin, lift bridge No. 4	2.9	{ 428.3 }	78.42
Brockport, lift bridge No. 5	4.61	{ 428.3 }	73.81
Brockport, lift bridge No. 6 .....	.19	432.91	73.62
Guard gate No. 12, Erie canal .....	.90	433.1	72.72
Holley terminal			
Holley lift bridge No. 7	3.7	{ 434.0 }	69.02
Guard gate No. 13, Erie canal .....	.63	{ 437.7 }	68.39
Huberton lift bridge No. 8	2.37	438.33	66.02
Albion, lift bridge No. 9	6.40	440.7	59.62
Albion, lift bridge No. 10 .....	.20	447.1	59.42
Guard gate No. 14, Erie canal	1.1	447.3	58.32
Eagle Harbor, lift bridge No. 11	2.2	448.4	56.12
Knowlesville, lift bridge No. 12	3.0	450.6	53.12
Guard gate No. 15	3.2	453.6	49.92
Medina terminal	1.0	456.8	48.92
Medina, lift bridge No. 13 .....	.4	457.8	48.52
Guard gate No. 16, Erie canal	3.21	458.2	45.31
Middleport, lift bridge No. 14	1.49	461.41	43.82
Guard gate No. 17	4.9	462.9	38.92
Gasport, lift bridge No. 15 .....	.4	467.8	38.52
Lockport, lift bridge No. 16	5.77	468.2	32.75
Lockport, lift bridge No. 17 .....	.23	473.97	32.52
Lockport, lower terminal .....	.10	474.2	32.42
Locks No. 34 and 35 .....	.50	474.3	31.92
Upper terminal, Lockport .....	.50	474.8	31.42
Guard gate No. 18, Erie canal	4.0	475.3	27.42
Pendleton, bridge	2.2	479.3	25.22
Martinsville	6.4	481.5	18.82
Tonawanda terminal			
North Tonawanda terminal	4.4	{ 487.9 }	14.42
Buffalo, Erie Basin	12.43	{ 492.3 }	1.99
Buffalo, Ohio Basin	1.99	504.73	0.00
		506.72	

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CHAMPLAIN CANAL.

	Distances between points	From New York	From Canadian line
Federal lock at Troy		151.93	169.57
Cohoes terminal, Ontario street	1.67	153.60	167.90
Waterford junction in river .....	.78	154.38	167.12
Waterford, Union bridge .....	.54	154.92	166.58
Lock No. 1	2.88	157.80	163.70
Lock No. 2	3.90	161.7	159.80
Mechanicville terminal	1.90	163.6	157.90
Lock No. 3 .....	.63	164.23	157.27
Lock No. 4	1.83	166.06	155.44
Stillwater, bridge .....	.42	166.48	155.02
Bemis Heights	2.82	169.30	152.20
Lock No. 5	11.06	180.36	141.14
Thomson terminal	1.04	181.4	140.10
Northumberland, bridge .....	.10	181.5	140.00
Lock No. 6, Fort Miller	2.50	184.0	137.50
Guard Gate (Crocker's Reef)	2.07	186.07	135.43
Lock No. 7, Fort Edward	5.17	191.24	130.26
Fort Edward terminal, side line	1.00	192.24	131.26
Lock No. 8	2.06	193.30	128.21
Dunham Basin, bridge	1.70	195.00	126.50
Lock No. 9	4.10	199.10	122.40
Smith's Basin, bridge .....	.44	199.54	121.96
Fort Ann, bridge	3.76	203.30	118.20
Comstock, bridge	3.94	207.24	114.28
Lock No. 11 .....	.96	208.2	113.30
Whitehall terminal	6.30	214.5	107.00
Whitehall lock No. 12 .....	.29	214.79	106.71
Ticonderoga	22.31	237.1	84.40
Crown Point	8.30	245.4	76.10
Port Henry	8.10	253.5	68.00
Essex	21.00	274.5	47.00
Burlington	11.00	285.5	36.00
Port Kent	3.00	288.5	33.00
Plattsburg	12.00	300.5	21.00
Rouses Point	19.30	319.8	1.70
Canadian line	1.70	321.5	00.00

OSWEGO CANAL.

	Distances between points.	From New York.	From Oswego.
Oswego canal, junction east (Three River Point).....	3.81	314.61	23.79
Lift Bridge No. 1, Oswego.....	2.29	316.9	21.50
Phoenix, lock No. 1.....	.10	317.0	21.40
Hinmansville, bridge.....	3.2	320.2	18.20
Fulton, lock No. 2.....	6.3	326.5	11.90
Fulton, terminal.....	.2	326.7	11.70
Fulton, lock No. 3.....	.35	327.05	11.35
Battle Island cut.....	3.50	330.55	7.85
Minetto, lock No. 5.....	2.95	333.5	4.90
Oswego, lock No. 6, High dam.....	3.3	336.8	1.60
Oswego, lock No. 7.....	.36	337.16	1.24
Oswego, lock No. 8.....	.54	337.70	.70
Oswego, east terminal.....	.30	338.00	.40
Oswego, Lake terminal.....	.40	338.40	.00

BLACK RIVER CANAL.

	DISTANCE FROM —		
	Place to place.	Rome.	Boon- ville.
Rome.....	.....	.....	25
Ridge Mills.....	2	2	23
Lock No. 7.....	3	5	20
Walworth's Storehouse.....	1	6	19
Westernville.....	3	9	16
Wells Brook Aqueduct.....	2	11	14
Stringers' Creek.....	2	13	12
Lansing Kill.....	1	14	11
Lock No. 31.....	2	16	9
Lansing Kill dam or feeder.....	1	17	8
Lower Falls, Lansing Kill.....	2	19	6
Upper Falls, Lansing Kill.....	2	21	4
Lock No. 70.....	2	23	2
Boonville.....	2	25	.....
Sugar river.....	3	28	3
Little Falls, Black river.....	1	29	4
Port Leyden.....	3	32	7
Lock No. 91.....	1	33	8
Lyon Falls.....	2	35	10
Hawkinsville, on feeder (three miles from Boonville).....	.....	28	3
A. Lee's, on feeder.....	2	30	5
R. B. Miller's, on feeder.....	1	31	6
State dam on feeder.....	4	35	10
Head of reservoir.....	2	37	12

**Report Made to the Superintendent of Public Works by the
Inspectors Appointed Under the Steam Navigation Law.**

STATE OF NEW YORK.
SUPERINTENDENT OF PUBLIC WORKS.
BUREAU OF NAVIGATION.

ALBANY, N. Y., *December 2, 1916.*

Hon. W. W. WOTHERSPOON, *Superintendent of Public Works,*
Albany, N. Y.:

DEAR SIR.—In accordance with section 27 of article II of the Navigation Law, the inspectors of steam and motor vessels beg to submit the following report for your consideration:

LICENSES ISSUED AND RENEWED DURING THE YEAR 1916.

	Master.	Pilot.	Engineer.	Joint pilot and engineer.
Original	4	29	59	52
Renewals	43	55	92	179
	<hr/>	<hr/>	<hr/>	<hr/>
	47	84	151	231
	<hr/>	<hr/>	<hr/>	<hr/>
Total number of licenses issued during the year				513
				<hr/>
Total number of steamers inspected during the year . . .				81
Total number of motor boats inspected during the year . . .				231
				<hr/>
				312
				<hr/>

Total amount of money collected for inspections, licenses and fines, including balance from last year, and turned in to the Superintendent of Public Works, four thousand twenty-eight dollars and fifty cents (\$4,028.50).

Vessels inspected, but not certificated, pending equipment not supplied or repairs required to be made: Steamer, 1; motor boats, 7; total, 8.

Repairs were ordered or deficiencies in equipment required to be supplied on twenty-eight boats and certificates of inspection were withheld pending compliance, but eventually all except eight complied and certificates were issued to them.

VIOLATION OF LAW.

Upon July 27th the steamer "Venture" of Ithaca was lying at the dock at Watkins, and upon going on board only one license could be found, that of the master, Thomas G. Tuttle, and it was ascertained that the steamer had been carrying passengers between Watkins and Geneva without any licensed engineer, which was finally admitted by the master. A fine of \$25 was imposed and the vessel put in the custody of the sheriff of Schuyler county until the fine was paid.

Last winter the motorboat "Scout" of Lake George, of four tons, was destroyed by fire, caused by the burning of the boat-house where it was stored:

On August 27th the passenger steamer "Kittie West," of thirty-two tons, sprang a leak while navigating the Erie canal near Herkimer and was beached, the passengers escaping uninjured to the bank.

In September the steamer "City of Utica," of thirty tons, sank while lying at the dock at Ilion, said to be due to carelessness in not pumping her out occasionally, the boat being out of commission.

No accidents except the above have come to our knowledge, and we are pleased to report, as we did last year, that, so far as we know, there has not been a single loss of life nor injury to person on any of the boats under our jurisdiction that have navigated during the year.

During this year twelve steamers came in for inspection that did not in 1915, and sixteen dropped out; the twelve aggregated 510 tons and the sixteen totaled 902 tons. Therefore, the deficit as compared to previous year was 392 tons.

Applying the same comparison to motor boats, thirty-eight came in and sixty-five dropped out, making a loss of twenty-seven motor boats, but the tonnage nearly balanced, the loss in tonnage of motor

boats being but seventeen tons. Therefore, the net deficit is thirty-one vessels and tonnage of 409 of both kinds, steam and motor.

Respectfully submitted,

H. S. LOUCKS,

THEO. T. MERSEREAU,

Inspectors of Steam Vessels.

STATE OF NEW YORK, }
COUNTY OF ALBANY, } ss.:

Henry S. Loucks and Theo. T. Mersereau, being duly severally sworn, each for himself, deposes and says that he is an inspector of steam vessels in the State Department of Public Works, appointed pursuant to the provisions of the Navigation Law; that he has prepared and signed the foregoing detailed statement and account, and that the same is a true and correct account of the matters therein referred to.

H. S. LOUCKS.

THEO. T. MERSEREAU.

Subscribed and sworn to before me
this 1st day of December, 1916.

JOHN E. WINNE,

Notary Public.

REPORT
OF THE
SUPERINTENDENT OF PUBLIC WORKS
UPON THE
TRADE AND TONNAGE OF THE CANALS FOR THE
YEAR 1916

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ANNUAL ACCOUNT of property (in tons of 2,000 lbs.) shipped on the canals each week during the season of 1916.

DAYS	THE FOREST — PRODUCTS OF WOOD					Agriculture— Vegetable food— Wheat
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	
Fifteenth to twenty-second.....	3,364	.....	.....	.....	.....	1,908
Twenty-third to close.....	8,361	.....	.....	.....	.....	2,148
Total May	11,725	.....	.....	.....	.....	4,056
First to seventh.....	7,823	50	280	899	.....	948
Eighth to fourteenth.....	4,371	.....	252	448	.....	2,148
Fifteenth to twenty-second.....	5,199	.....	420	638	.....	3,699
Twenty-third to close.....	7,922	.....	140	3,206	.....	2,991
Total June	25,315	50	1,092	5,191	.....	9,786
First to seventh.....	7,702	.....	140	1,641	.....	1,191
Eighth to fourteenth.....	9,122	60	140	955	.....	2,391
Fifteenth to twenty-second.....	12,399	.....	.....	2,985	.....	1,671
Twenty-third to close.....	16,435	7,392	.....	6,457	.....	4,104
Total July	45,658	7,452	280	12,038	.....	9,357
First to seventh.....	8,567	6,264	140	1,212	.....	4,752
Eighth to fourteenth.....	8,525	.....	.....	3,895	.....	2,040

Fifteenth to twenty-second.....	10,145	.....	364	3,058	.....	2,850
Twenty-third to close.....	11,709	466	448	4,726	.....	3,960
Total August	38,946	6,730	952	12,891	.....	13,602
First to seventh.....	7,208	.....	473	6,913	.....	2,979
Eighth to fourteenth.....	5,610	.....	140	2,195	.....	3,465
Fifteenth to twenty-second.....	10,929	.....	246	6,586	140	5,247
Twenty-third to close.....	8,114	550	392	4,670	678	3,102
Total September	31,861	550	1,251	20,364	818	14,793
First to seventh.....	8,378	281	84	1,921	.....	2,121
Eighth to fourteenth.....	7,010	500	.....	2,895	129	1,911
Fifteenth to twenty-second.....	10,716	1,670	316	1,442	532	2,628
Twenty-third to close.....	9,865	9,103	515	952	370	3,603
Total October	35,969	11,619	915	7,210	1,031	10,263
First to seventh.....	10,612	760	.....	988	269	2,760
Eighth to fourteenth.....	15,503	.....	582	2,136	1,131	2,022
Fifteenth to twenty-second.....	11,857	.....	.....	3,805	588	.....
Twenty-third to close.....	9,585	6,400	395	5,298	.....	.....
Total November	47,557	7,160	977	12,227	1,988	4,782
Total for the year.....	237,258	33,561	5,467	69,921	3,837	66,639

Annual account of property (in tons) shipped, etc.—(Continued).

DAYS	AGRICULTURE — VEGETABLE FOODS					ALL OTHER AGRICULTURAL PRODUCTS		
	Barley	Barley malt	Oats	Potatoes	Flax seed	Hay		
Fifteenth to twenty-second.....	768	1,162	608	.....	.....	.....
Twenty-third to close.....	864	.....	672	.....	.....	.....
Total May	1,632	1,162	1,280	.....	.....	.....
First to seventh.....	1,152	.....	624	.....	1,437	.....	101	
Eighth to fourteenth.....	792	.....	736	.....	571	.....	.....
Fifteenth to twenty-second.....	912	2,236	624	.....	98	.....	101	
Twenty-third to close.....	984	3,216	704	.....	.....	.....	.....
Total June	3,840	5,452	2,688	.....	2,106	.....	202	
First to seventh.....	1,104	1,251	784	.....	.....	.....	.....
Eighth to fourteenth.....	1,056	.....	736	.....	.....	.....	.....
Fifteenth to twenty-second.....	1,176	.....	896	.....	.....	.....	.....
Twenty-third to close.....	1,152	.....	832	.....	1,363	.....	95	
Total July	4,488	1,251	3,248	.....	1,363	.....	95	
First to seventh.....	1,344	623	1,056	.....	963	.....	.....
Eighth to fourteenth.....	1,176	2,181	864	.....	521	.....	.....

Fifteenth to twenty-second.....	1,918	.....	976	.....	147	.....
Twenty-third to close.....	1,320	1,119	1,024	.....	.....	112
Total August	5,758	3,923	3,920	.....	1,631	112
First to seventh.....	1,416	367	1,568	.....	.....	.....
Eighth to fourteenth.....	854	804	1,072	.....	.....	.....
Fifteenth to twenty-second.....	1,584	548	1,088	.....	.....	196
Twenty-third to close.....	2,376	128	992	.....	.....	112
Total September	6,230	1,847	4,720	.....	.....	308
First to seventh.....	2,400	2,202	1,216	.....	.....	.....
Eighth to fourteenth.....	2,256	1,498	704	.....	.....	90
Fifteenth to twenty-second.....	.....	510	.....	.....	.....	.....
Twenty-third to close.....	.....	862	.....	.....	.....	100
Total October	4,656	5,072	1,920	.....	.....	190
First to seventh.....	.....	.....	.....	315	.....	.....
Eighth to fourteenth.....	480	1,284	481	735	.....	150
Fifteenth to twenty-second.....	480	756	.....	393	.....	97
Twenty-third to close.....	.....	.....	.....	696	.....	104
Total November	960	2,040	481	2,139	.....	351
Total for the year.....	27,564	20,747	18,257	2,139	5,100	1,258

Annual account of property (in tons) shipped, etc.—(Continued).

DAYS	MANUFACTURES					
	Domestic spirits	Oil, meal and cake	Pig iron	Fluom and bar iron	Castings and ironware	Domestic woollens
Fifteenth to twenty-second.....	689	.....	702	684
Twenty-third to close.....	8	.....	2,832	.....	459	1,161
Total May	8	.....	3,521	.....	1,161	1,845
First to seventh.....	689	236
Eighth to fourteenth.....	365	728	.....	.....
Fifteenth to twenty-second.....	1,522	.....	470	3,210
Twenty-third to close.....	1,742	.....	.....	1,651
Total June	3,629	728	1,159	5,097
First to seventh.....	231	.....	.....	695
Eighth to fourteenth.....	2,237	.....	.....	1,418
Fifteenth to twenty-second.....	610	.....	1,159	470
Twenty-third to close.....	450	.....	459	3,784
Total July	3,528	.....	1,618	6,367
First to seventh.....	1,158	.....	448	1,915
Eighth to fourteenth.....	1,651

Annual account of property (in tons) shipped, etc.—(Continued).

DAYS	MERCHANDISE					
	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise	Ice
Fifteenth to twenty-second.....	.....	.....	.....	.....	2,030	.....
Twenty-third to close.....	219	.....	28	.....	2,637	.....
Total May	219	.....	28	.....	4,667	.....
First to seventh.....	47	.....	.....	.....	4,382	1,120
Eighth to fourteenth.....	.....	.....	.....	.....	2,590	.....
Fifteenth to twenty-second.....	100	24	90	.....	1,667	.....
Twenty-third to close.....	.....	.....	.....	.....	3,716	8,176
Total June	147	24	90	.....	12,355	9,296
First to seventh.....	.....	.....	.....	.....	4,683	2,408
Eighth to fourteenth.....	.....	.....	.....	.....	2,171	224
Fifteenth to twenty-second.....	.....	.....	.....	.....	2,401	1,232
Twenty-third to close.....	.....	.....	.....	.....	6,734	3,920
Total July .....	.....	.....	.....	.....	15,989	7,784
First to seventh.....	.....	.....	.....	.....	5,635	7,095
Eighth to fourteenth.....	.....	168	151	120	2,240	4,714

Fifteenth to twenty-second.....	.....	123	56	.....	4,766	5,600
Twenty-third to close.....	.....	.....	.....	.....	.....	.....
Total August .....	.....	291	207	120	17,152	33,281
First to seventh.....	.....	.....	.....	.....	4,234	8,960
Eighth to fourteenth.....	.....	314	.....	.....	5,083	7,146
Fifteenth to twenty-second.....	.....	162	.....	.....	3,286	4,480
Twenty-third to close.....	.....	.....	168	.....	7,089	11,760
Total September .....	.....	476	168	.....	19,692	32,346
First to seventh.....	.....	.....	.....	.....	4,375	3,920
Eighth to fourteenth.....	.....	.....	.....	.....	2,254	5,320
Fifteenth to twenty-second.....	.....	.....	.....	.....	3,161	5,600
Twenty-third to close.....	.....	.....	.....	.....	4,457	840
Total October .....	.....	.....	.....	.....	14,247	15,680
First to seventh.....	.....	.....	.....	.....	5,107	280
Eighth to fourteenth.....	.....	.....	.....	.....	2,898	.....
Fifteenth to twenty-second.....	.....	.....	80	.....	2,727	.....
Twenty-third to close.....	.....	.....	80	.....	4,630	.....
Total November .....	.....	.....	160	.....	15,362	280
Total for the year.....	366	791	653	120	99,660	98,667

Annual account of property (in tons) shipped, etc.—(Concluded).

DAYS	OTHER ARTICLES					Total tons	Total miles boats cleared
	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries		
Fifteenth to twenty-second.....	14,347	7,185	1,951	.....	.....	35,398	18,806
Twenty-third to close.....	15,583	6,534	968	.....	514	42,988	22,185
Total May	29,930	13,719	2,919	.....	514	78,386	40,991
First to seventh.....	19,019	11,304	1,926	.....	.....	52,037	24,395
Eighth to fourteenth.....	15,699	6,426	1,632	.....	.....	36,758	14,049
Fifteenth to twenty-second.....	16,578	4,662	1,478	.....	6	43,734	25,532
Twenty-third to close.....	17,258	8,964	1,845	.....	95	62,010	27,118
Total June	68,554	31,356	6,881	.....	101	195,139	91,094
First to seventh.....	29,058	7,549	2,376	.....	.....	60,813	26,362
Eighth to fourteenth.....	19,021	3,147	1,210	.....	11	43,899	20,433
Fifteenth to twenty-second.....	18,027	5,654	1,303	.....	121	50,104	25,937
Twenty-third to close.....	16,583	8,034	200	.....	.....	77,994	38,151
Total July	82,689	24,384	5,089	.....	132	232,810	110,883
First to seventh.....	29,570	9,140	2,386	.....	96	82,364	34,437
Eighth to fourteenth.....	16,286	6,723	1,950	.....	.....	53,235	23,937

Fifteenth to twenty-second.....	27,953	4,445	1,564	.....	.....	73,530	33,775
Twenty-third to close.....	23,191	8,629	4,605	.....	.....	74,021	33,775
Total August	97,000	28,937	10,535	.....	.....	285,156	122,426
First to seventh.....	32,108	7,775	4,307	.....	.....	79,618	26,239
Eighth to fourteenth.....	19,372	7,065	2,227	.....	.....	56,998	24,851
Fifteenth to twenty-second.....	31,922	4,072	2,080	.....	448	78,497	33,056
Twenty-third to close.....	16,221	4,044	1,493	.....	1,019	67,723	24,537
Total September	99,623	22,956	10,107	.....	1,467	282,836	108,683
First to seventh.....	50,377	7,411	2,894	.....	.....	91,360	38,144
Eighth to fourteenth.....	37,824	4,647	2,688	.....	.....	71,135	19,941
Fifteenth to twenty-second.....	16,835	2,567	1,164	.....	1,019	48,838	19,251
Twenty-third to close.....	20,725	4,871	1,517	.....	414	60,790	33,049
Total October	125,761	19,496	8,263	.....	1,433	272,123	110,385
First to seventh.....	66,089	7,955	3,539	.....	1,008	101,811	28,289
Eighth to fourteenth.....	11,153	2,051	870	.....	224	44,751	20,401
Fifteenth to twenty-second.....	20,553	2,786	109	.....	476	49,538	19,894
Twenty-third to close.....	40,907	9,757	1,435	.....	1,292	81,267	18,072
Total November	138,702	22,549	5,953	.....	3,000	277,367	86,656
Total for the year.....	642,819	163,647	49,747	.....	5,900	1,625,050	671,268

ANNUAL STATEMENT showing the total quantity (in tons of 2,000 lbs.) of way freight going east during the season of 1916.

OFFICES	THE FOREST — PRODUCT OF WOOD				AGRICULTURE — VEGETABLE FOODS	
	Boards and scantling	Timber	Wood	Pulp wood	Wheat	Barley
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy	18,756	.....	2,873	.....	.....	.....
Rome . . . . .	.....	.....	1,750	.....	.....	.....
Syracuse	208	.....	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda	74,983	.....	.....	.....	.....	.....
Buffalo	1,500	.....	.....	.....	42,186	26,280
Whitehall	1,880	29,100	.....	69,922	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....
Watloo . . . . .	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	198	.....	.....	.....
Total	97,327	29,100	4,821	69,922	42,186	26,280

Way freight (in tons) going east, etc.—(Continued).

OFFICES	ALL OTHER AGRICULTURAL PRODUCTS				MANUFACTURES		Merchandise— Iron and steel
	Barley malt	Oats	Potatoes	Hay	Bloom and bar iron	Domestic salt	
Albany
Troy	1,089	1,257	.....	.....	.....
Rome	525	.....	.....	.....	.....
Syracuse	17,804	160
Rochester	12,320	.....
Tonawanda
Buffalo	320	17,776	.....	.....	728	.....	.....
Whitehall
Oswego
Waterloo	1,917	.....
Boonville	525	.....	.....	.....	.....
Total	320	17,776	2,139	1,257	728	32,041	160

Way freight (in tons) going east, etc.—(Concluded).

OFFICES	All other merchandise	OTHER ARTICLES					Total tons
		Ice	Stone, lime and clay	Anthracite coal	Bituminous coal	Sundries	
Albany	2,285	82,425	26,313	.....	.....	.....	.....
Troy	2,783	.....	14,404	24,684	8,872	351	135,349
Rome	10,904	16,224	76,416	17,585	2,350	.....	53,018
Syracuse	8,370	.....	78,273	637	16,978	6	141,651
Rochester . . . . .	.....	.....	9,900	.....	.....	.....	116,584
Tonawanda . . . . .	.....	.....	204,918	100	.....	.....	84,883
Buffalo	9,653	.....	.....	.....	.....	.....	303,461
Whitehall	2,490	.....	.....	.....	.....	.....	100,902
Oswego	2,312	.....	.....	1,287	5,335	.....	2,490
Waterloo . . . . .	.....	.....	4,000	.....	.....	.....	10,851
Boonville . . . . .	.....	.....	.....	.....	.....	.....	4,723
Total	38,797	98,649	414,224	44,293	33,535	357	953,912

ANNUAL STATEMENT showing the total quantity (in tons of 2,000 lbs.) of way freight going west during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD				Agriculture— Vegetable food— Barley
	Boards and scantling	Timber	Wood	Wood pulp	
Albany .....	.....	.....	.....	.....	.....
Troy	1,903	.....	.....	3,836	.....
Rome .....	.....	.....	140	.....	.....
Syracuse	3	.....	280	.....	1,200
Rochester .....	.....	.....	.....	.....	.....
Tonawanda .....	.....	.....	.....	.....	.....
Buffalo .....	.....	.....	.....	.....	.....
Whitehall	22	.....	.....	.....	.....
Oswego .....	.....	50	.....	.....	.....
Waterloo .....	.....	.....	.....	.....	.....
Boonville	2	.....	227	.....	.....
Total	1,930	50	647	3,836	1,200

Way freight (in tons) going west, etc.—(Continued).

OFFICES	MERCHANDISE					
	Agriculture— Vegetable food: Barley malt	Manufactures: Domestic spirits	Sugar	Iron and steel	Railroad iron	All other merchandise
Albany
Troy	3	366	56	.....	8,987
Rome	8,242
Syracuse	1,360	.....	.....	118	.....	16,777
Rochester	5,525
Tonawanda
Buffalo
Whitehall
Oswego	120	.....
Watloo
Boonville
Total	1,360	3	366	174	120	39,531

Way freight (in tons) going west, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Ice	Stone, lime and clay	Anthracite coal	Bituminous coal	Sundries	
Albany
Troy	31,384	34,180	4,348	1,674	86,737
Rome	15,731	3,603	615	.....	28,331
Syracuse	18	56,052	5,794	.....	.....	81,602
Rochester	51,333	336	.....	.....	57,194
Tonawanda	400	.....	.....	.....	400
Buffalo
Whitehall	3,486	.....	.....	.....	3,508
Oswego	15,905	.....	.....	.....	16,075
Watloo
Boonville	229
Total	18	174,291	43,913	4,963	1,674	274,076

ANNUAL STATEMENT showing the total quantity (in tons of 2,000 lbs.) of way freight going east and west during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD					Agriculture— Vegetable food: Wheat
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	
Albany .....	.....	.....	.....	.....	.....	.....
Troy	20,659	.....	2,873	.....	3,836	.....
Rome .....	.....	.....	1,890	.....	.....	.....
Syracuse	211	.....	280	.....	.....	.....
Rochester .....	.....	.....	.....	.....	.....	.....
Tonawanda	74,983	.....	.....	.....	.....	.....
Buffalo	1,500	.....	.....	.....	.....	42,186
Whitehall	1,902	29,100	.....	69,922	.....	.....
Oswego .....	.....	50	.....	.....	.....	.....
Waterloo .....	.....	.....	.....	.....	.....	.....
Boonville	2	.....	425	.....	.....	.....
Total	99,257	29,150	5,468	69,922	3,836	42,186

Way freight (in tons) going east and west, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS				All other agricultural products—Hay	Manufactures—Domestic spirits
	Barley	Barley malt	Oats	Potatoes		
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy . . . . .	.....	.....	.....	1,089	1,257	3
Rome . . . . .	.....	1,360	.....	525	.....	.....
Syracuse	1,200	.....	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	320	17,776	.....	.....	.....
Buffalo	26,280	.....	.....	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	525	.....	.....
Boonville . . . . .	.....	.....	.....	.....	.....	.....
Total	27,480	1,680	17,776	2,139	1,257	3

Way freight (in tons) going east and west, etc.—(Continued).

OFFICES	MANUFACTURES		MERCHANDISE			
	Bloom and bar iron	Domestic salt	Sugar	Iron and steel	Railroad iron	All other merchandise
Albany
Troy	366	56	.....	11,272
Rome	11,025
Syracuse	17,804	.....	278	.....	27,681
Rochester	12,320	.....	.....	.....	13,895
Tonawanda
Buffalo	728	.....	.....	.....	.....	9,653
Whitehall
Oswego	120	2,490
Watloo	1,917	.....	.....	.....	2,312
Boonville
Total	728	32,041	366	334	120	78,328

Way freight (in tons) going east and west, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Ice	Stone, lime and clay	Anthracite coal	Bituminous coal	Sundries	
Albany	82,425	57,697	34,180	4,348	2,025	222,086
Troy . . . . .	.....	30,135	28,287	9,487	.....	81,349
Rome . . . . .	.....	132,468	23,379	2,350	.....	223,253
Syracuse	16,242	129,606	973	16,978	6	173,778
Rochester . . . . .	.....	10,300	.....	.....	.....	85,283
Tonawanda . . . . .	.....	204,918	100	.....	.....	303,461
Buffalo . . . . .	.....	3,486	.....	.....	.....	104,410
Whitehall . . . . .	.....	15,905	.....	.....	.....	18,565
Oswego . . . . .	.....	.....	1,287	5,335	.....	10,851
Waterloo . . . . .	.....	4,000	.....	.....	.....	4,952
Boonville . . . . .	.....	.....	.....	.....	.....	.....
Total	98,667	588,515	88,206	38,498	2,031	1,227,988

ANNUAL STATEMENT showing the total quantity (in tons of 2,000 lbs.) of through freight going east during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD		AGRICULTURE — VEGETABLE FOODS			
	Boards and scantling	Timber	Wheat	Barley	Barley malt	
Tonawanda	6,162	.....	.....	.....	.....	.....
Buffalo	583	.....	24,453	694	19,069	.....
Whitehall	130,311	4,411	.....	.....	.....	.....
Total	137,056	4,411	24,453	694	19,069	.....

Through freight (in tons) going east, etc. — (Continued).

OFFICES	All other agricultural products— Oats	MANUFACTURES			Merchandise— iron and steel
		Oil, meal and cake	Pig iron	Castings and ironware	
Tonawanda .....	..... 481	..... 230	..... 22,057	..... 10,885	..... 319
Buffalo .....	.....	.....	.....	.....	.....
Whitehall .....	.....	.....	.....	.....	.....
Total	481	230	22,057	10,885	319

Through freight (in tons) going east, etc. — (Concluded).

OFFICES	All other merchandise	OTHER ARTICLES				Total tons
		Stone, lime and clay	Bituminous coal	Iron ore	Sundries	
Tonawanda .....	.....	.....	450	.....	.....	6,612
Buffalo	11	102	.....	.....	.....	78,884
Whitehall	960	.....	.....	5,901	2,307	143,890
Total	971	102	450	5,901	2,307	229,386

ANNUAL STATEMENT showing the total quantity (in tons of 2,000 lbs.) of through freight going west during the season of 1916.

OFFICES	The Forest— Product of wood— Boards and scantling	Agricultural products— Flax seed	Manufactures— Domestic spirits	Merchandise— Coffee	All other merchandise
Troy	947	5,100	5	792	20,313
Total	947	5,100	5	792	20,313

Through freight (in tons) going west, etc. — (Concluded).

OFFICES	OTHER ARTICLES				Total tons
	Stone, lime and clay	Anthracite coal	Bituminous coal	Sundries	
Troy	54,294	75,370	10,682	173	167,676
Total	54,294	75,370	10,682	173	167,676

ANNUAL STATEMENT showing the total quantity (in tons of 2,000 lbs.) of through freight going east and west during the season of 1916.

OFFICES	THE FOREST— PRODUCTS OF WOOD		AGRICULTURE — VEGETABLE FOODS			
	Boards and scantling	Timber	Wheat	Barley	Barley malt	Oats
Troy	947	.....	.....	.....	.....	.....
Tonawanda	6,162	.....	.....	.....	.....	.....
Buffalo	583	.....	24,453	694	19,069	481
Whitehall	130,311	4,411	.....	.....	.....	.....
Total	138,003	4,411	24,453	694	19,069	481

Through freight (in tons) going east and west, etc. (Continued).

OFFICES	All other agricultural products— Flax seed	MANUFACTURES				MERCHANDISE	
		Domest c sp r ta	Oil, meal and cake	Pkg ton	Castings and ironware	Coffee	Iron and steel
Troy	5,100	5	.....	.....	.....	702	.....
Tonawanda .....	.....	.....	.....	.....	.....	.....	.....
Buffalo .....	.....	.....	230	22,057	10,885	.....	310
Whitehall .....	.....	.....	.....	.....	.....	.....	.....
Total	5,100	5	230	22,057	10,885	702	310

Through freight (in tons) going east and west, etc.—(Concluded).

OFFICES	All other merchandise	OTHER ARTICLES					Total tons
		Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Troy	20,313	54,294	75,370	10,682	.....	173	167,676
Tonawanda .....	.....	.....	.....	450	.....	.....	6,612
Buffalo	11	102	.....	.....	.....	.....	78,884
Whitehall	960	.....	.....	.....	5,901	2,307	143,890
Total	21,284	54,396	75,370	11,132	5,901	2,480	397,062

Total tons carried on the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD					Agriculture— Vegetable food— Wheat
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy	21,606	.....	2,873	.....	3,836	.....
Rome . . . . .	.....	.....	1,890	.....	.....	.....
Syracuse	211	.....	280	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda	81,145	.....	.....	.....	.....	.....
Buffalo	2,083	.....	.....	.....	.....	66,639
Whitehall	132,213	33,511	.....	69,922	.....	.....
Oswego . . . . .	.....	50	.....	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....	.....
Boonville	2	.....	425	.....	.....	.....
Total	237,260	33,561	5,468	69,922	3,836	66,639

Total tons carried on the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS				ALL OTHER AGRICULTURAL PRODUCTS	
	Barley	Barley malt	Oats	Potatoes	Flax seed	Hay
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy . . . . .	.....	.....	.....	1,089	5,100	1,257
Rome . . . . .	.....	.....	.....	525	.....	.....
Syracuse	1,200	1,360	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....
Buffalo	26,974	19,380	18,257	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....
Watertown . . . . .	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	525	.....	.....
Total	28,174	20,749	18,257	2,139	5,100	1,257

Total tons carried on the canals, etc.—(Continued).

OFFICES	MANUFACTURES					
	Domestic spirits	Oil, meal and cake	Pig iron	Bloom and bar iron	Castings and ironware	Domestic salt
Albany
Troy	8	.....	.....	.....	.....	.....
Rome
Syracuse	17,804
Rochester	12,320
Tonawanda
Buffalo	230	22,057	728	10,885	.....
Whitehall
Oswego
Watertown	1,917
Boonville
Total	8	230	22,057	728	10,885	32,041

Total tons carried on the canals, etc.—(Continued).

OFFICES	MERCHANDISE					Other articles— Ice
	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise	
Albany	366	792	56	120	31,585	82,425
Troy					11,025	
Rome			278		27,681	16,242
Syracuse					13,895	
Rochester						
Tonawanda						
Buffalo			319		9,664	
Whitehall					960	
Oswego				120	2,490	
Watertown					2,312	
Boonville						
Total	366	792	653	120	99,612	98,667

Total tons carried on the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy	111,991	109,550	15,030	.....	2,198	389,762
Rome	30,135	28,287	9,487	.....	.....	81,349
Syracuse	132,468	23,379	2,350	.....	.....	223,253
Rochester	129,606	973	16,978	.....	6	173,778
Tonawanda	10,300	.....	450	.....	.....	91,895
Buffalo	205,920	100	.....	.....	.....	382,345
Whitehall	3,486	.....	.....	5,901	2,307	248,300
Oswego	15,905	.....	.....	.....	.....	18,565
Waterloo . . . . .	.....	1,287	5,335	.....	.....	10,851
Boonville	4,000	.....	.....	.....	.....	4,952
Total	642,911	163,576	49,630	5,901	4,511	1,625,050

Value of all property carried on the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD				Agriculture— Vegetable food— Wheat
	Boards and scantling	Timber	Wood	Wood pulp	
Albany . . . . .	.....	.....	.....	.....	.....
Troy	\$453,751	.....	\$4,104	\$19,180	.....
Rome . . . . .	.....	.....	2,700	.....	.....
Syracuse	4,445	.....	400	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....
Tonawanda	1,704,047	.....	.....	.....	.....
Buffalo	43,750	.....	.....	.....	\$2,998,755
Whitehall	2,776,458	\$335,107	.....	349,608	.....
Oswego . . . . .	.....	500	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....
Boonville	46	.....	608	.....	.....
Total	\$4,982,497	\$335,607	\$7,812	\$368,788	\$2,998,755

Value of all property carried on the canals, etc. — (Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS				ALL OTHER AGRICULTURAL PRODUCTS	
	Barley	Barley malt	Oats	Potatoes	Flax seed	Hay
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy . . . . .	.....	.....	.....	\$54,450	\$306,000	\$25,139
Rome . . . . .	.....	.....	.....	26,250	.....	.....
Syracuse	\$50,000	\$96,000	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....
Buffalo	1,123,900	1,368,420	\$627,577	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	26,250	.....	.....
Total	\$1,173,900	\$1,464,420	\$627,577	\$106,950	\$306,000	\$25,139

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MANUFACTURES					
	Domestic spirits	Oil, meal and cake	Pig iron	Bloom and bar iron	Castings and ironware	Domestic salt
Albany
Troy	\$2,983	.....	.....	.....	.....	.....
Rome
Syracuse	\$178,046
Rochester	123,200
Tonawanda
Buffalo	\$9,184	\$551,419	\$14,560	\$653,116	.....
Whitehall
Oswego
Waterloo	19,165
Boonville
Total	\$2,983	\$9,184	\$551,419	\$14,650	\$653,116	\$320,411

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MERCHANDISE					Other articles— Ice
	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise	
Albany
Troy	\$51,275	\$189,768	\$3,360	.....	\$3,158,505	\$206,072
Rome	1,102,467	.....
Syracuse	16,650	.....	2,767,994	40,604
Rochester	1,389,500	.....
Tonawanda
Buffalo	191,322	.....	966,390	.....
Whitehall	96,020	.....
Oswego	\$4,800	249,000	.....
Waterloo	231,250	.....
Boonville
Total	\$51,275	\$189,768	\$211,332	\$4,800	\$9,961,126	\$246,676

Value of all property carried on the canals, etc. — (Concluded).

OFFICES	OTHER ARTICLES					Total value
	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany .....	.....	.....	.....	.....	.....	.....
Troy	\$279,978	\$547,749	\$75,151	.....	\$131,865	\$5,509,330
Rome	75,339	141,434	23,842	.....	.....	1,372,032
Syracuse	331,171	116,890	5,875	.....	.....	3,608,075
Rochester	324,013	5,116	84,891	.....	360	1,927,080
Tonawanda	25,750	.....	2,250	.....	.....	1,732,047
Buffalo	512,550	500	.....	.....	.....	9,061,443
Whitehall	8,714	.....	.....	\$29,506	138,400	3,733,813
Oswego	3,976	.....	.....	.....	.....	258,276
Waterloo .....	.....	6,435	26,675	.....	.....	283,525
Boonville	1,000	.....	.....	.....	.....	27,904
Total	\$1,562,491	\$818,124	\$218,684	\$29,506	\$270,625	\$27,513,525

Property (in tons of 2,000 lbs.) left at and between offices of the canals during the season of 1910.

OFFICES	THE FOREST — PRODUCTS OF WOOD					AGRICULTURE — VEGETABLE FOODS	
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	Wheat	Barley
Albany .....	.....	.....	.....	.....	.....	.....	.....
Troy	156,431	4,412	2,873	.....	3,836	24,517	694
Rome	600	.....	1,750	.....	.....	.....	.....
Syracuse	2,320	.....	420	.....	.....	.....	2,400
Rochester	28,303	.....	.....	.....	.....	26,607	.....
Tonawanda	43,200	.....	.....	.....	.....	.....	.....
Buffalo	1,500	.....	.....	.....	.....	.....	.....
Whitehall	2,673	29,100	.....	69,922	.....	15,771	24,360
Oswego .....	.....	50	.....	.....	.....	.....	.....
Watloo .....	.....	.....	.....	.....	.....	.....	.....
Boonville .....	.....	.....	425	.....	.....	.....	.....
Total	235,027	33,562	5,468	69,922	3,836	66,895	27,454

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS.			ALL OTHER AGRICULTURAL PRODUCTS		MANUFACTURES	
	Barley malt	Oats	Potatoes	Flax seed	Hay	Oil, meal and cake	Pig iron
Albany	19,462	481	1,614	.....	1,257	230	21,423
Troy . . . . .	.....	.....	525	.....	.....	.....	.....
Rome	2,720	.....	.....	.....	.....	.....	.....
Syracuse . . . . .	.....	.....	.....	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....	.....
Buffalo . . . . .	.....	17,312	.....	5,101	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....	.....
Watertown . . . . .	.....	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	.....	.....	.....	.....
Total	22,182	17,793	2,139	5,101	1,257	230	21,423

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.-- (Continued).

OFFICES	MANUFACTURES		MERCHANDISE				
	Castings and ironware	Domestic salt	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise
Albany
Troy	10,857	27,972	147	.....	56	.....	11,272
Rome	13,466
Syracuse	6,163	173	.....	198	.....	25,369
Rochester	73	.....	.....	.....	14,575
Tonawanda
Buffalo	790	.....	.....	20,592
Whitehall	13,979
Oswego	120	3,993
Watloo	2,325
Boonville
Total	10,857	34,135	393	790	254	120	105,871

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES						Total tons
	Ice	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany	82,425	36,671	34,180	9,853	5,902	4,407	460,972
Troy	16,242	25,511	28,769	12,820			83,441
Rome		158,487	22,534	10,011			247,037
Syracuse		100,149	1,232	1,699		200	172,838
Rochester		14,212					57,412
Tonawanda		236,431	100				321,957
Buffalo		20,021	75,333	9,867		140	221,035
Whitehall		15,905					20,068
Oswego		27,556	1,287	4,941			36,109
Watloo							425
Boonville							
Total	98,667	634,943	163,435	49,191	5,902	4,747	1,621,294

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal during the season of 1916.

OFFICES	The Forest— Products of wood— Boards and scantling	AGRICULTURE — VEGETABLE FOODS			
		Wheat	Barley	Barley malt	Oats
Troy	6,429	24,517	694	19,462	481
Total	6,429	24,517	694	19,462	481

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal, etc.—(Continued).

OFFICES	MANUFACTURES					
	Agriculture— Vegetable foods— Potatoes	All other agricultural products— Hay	Oil, meal and cake	Pig iron	Castings and ironware	Domestic salt
Troy	525	821	230	21,423	10,857	27,972
Total	525	821	230	21,423	10,857	27,972

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal, etc.—(Concluded).

OFFICES	Merchandise	OTHER ARTICLES				Total tons
		Ice	Stone, lime and clay	Bituminous coal	Sundries	
Troy	155	27,674	7,196	5,505	240	154,181
Total	155	27,674	7,196	5,505	240	154,181

Property (in tons of 2,000 lbs.) arriving at tide water from the Champlain canal during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			Agriculture— Vegetable food: Potatoes	Other agricultural products— Hay
	Boards and scantling	Timber	Wood		
Troy	148,659	4,412	2,873	1,089	436
Total	148,659	4,412	2,873	1,089	436

Total tons carried on the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Stone, lime and clay	'Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany	111,991	109,550	15,030	.....	.....	389,762
Troy	30,135	28,287	9,487	.....	2,198	81,349
Rome	132,468	23,379	2,350	.....	.....	223,253
Syracuse	129,606	973	16,978	.....	6	173,778
Rochester	10,300	.....	450	.....	.....	91,895
Tonawanda	205,020	100	.....	.....	.....	382,345
Buffalo	3,486	.....	.....	5,901	2,307	248,300
Whitehall	15,905	.....	.....	.....	.....	18,565
Oswego . . . . .	.....	1,287	5,335	.....	.....	10,851
Watloo	4,000	.....	.....	.....	.....	4,952
Boonville . . . . .	.....	.....	.....	.....	.....	.....
Total	642,911	163,576	49,630	5,901	4,511	1,625,050

Value of all property carried on the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD				Agriculture— Vegetable food— Wheat
	Boards and scantling	Timber	Wood	Wood pulp	
Albany .....	.....	.....	.....	.....	.....
Troy	\$453,751	.....	\$4,104	\$19,180	.....
Rome .....	.....	.....	2,700	.....	.....
Syracuse	4,445	.....	400	.....	.....
Rochester .....	.....	.....	.....	.....	.....
Tonawanda	1,704,047	.....	.....	.....	.....
Buffalo	43,750	.....	.....	.....	\$2,998,755
Whitehall	2,776,458	\$335,107	.....	349,608	.....
Oswego .....	.....	500	.....	.....	.....
Waterloo .....	.....	.....	.....	.....	.....
Boonville	46	.....	608	.....	.....
Total	\$4,982,497	\$335,607	\$7,812	\$368,788	\$2,998,755

Value of all property carried on the canals, etc. — (Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS					ALL OTHER AGRICULTURAL PRODUCTS	
	Barley	Barley malt	Oats	Potatoes	Flax seed	Hay	
Albany . . . . .	.....	.....	.....	.....	.....	.....	.....
Troy . . . . .	.....	.....	.....	\$54,450	\$306,000	\$25,139	.....
Rome . . . . .	.....	.....	.....	26,250	.....	.....	.....
Syracuse	\$50,000	\$96,000	.....	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....	.....
Buffalo	1,123,900	1,368,420	\$627,577	.....	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	26,250	.....	.....	.....
Total	\$1,173,900	\$1,464,420	\$627,577	\$106,950	\$306,000	\$25,139	.....

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MANUFACTURES					
	Domestic spirits	Oil, meal and cake	Pig iron	Bloom and bar iron	Castings and ironware	Domestic salt
Albany
Troy	\$2,983	.....	.....	.....	.....	.....
Rome
Syracuse	\$178,046
Rochester	123,200
Tonawanda
Buffalo	\$9,184	\$551,419	\$14,560	\$653,116	.....
Whitehall
Oswego
Waterloo	19,165
Boonville
Total	\$2,983	\$9,184	\$551,419	\$14,650	\$653,116	\$320,411

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MERCHANDISE					Other articles— Ice
	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise	
Albany
Troy	\$51,275	\$189,768	\$3,360	.....	\$3,158,505	\$206,072
Rome	1,102,467	.....
Syracuse	16,650	.....	2,767,994	40,604
Rochester	1,389,500	.....
Tonawanda
Buffalo	191,322	.....	966,390	.....
Whitehall	96,020	.....
Oswego	\$4,800	249,000	.....
Watertown	231,250	.....
Boonville
Total	\$51,275	\$189,768	\$211,332	\$4,800	\$9,961,126	\$246,676

Value of all property carried on the canals, etc. — (Concluded).

OFFICES	OTHER ARTICLES					Total value
	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy	\$279,978	\$547,749	\$75,151	.....	\$131,865	\$5,509,330
Rome	75,339	141,434	23,842	.....	.....	1,372,032
Syracuse	331,171	116,390	5,875	.....	.....	3,608,075
Rochester	324,013	5,116	84,891	.....	360	1,927,080
Tonawanda	25,750	.....	2,250	.....	.....	1,732,047
Buffalo	512,550	500	.....	.....	.....	9,061,443
Whitehall	8,714	.....	.....	\$29,506	138,400	3,733,813
Oswego	3,976	.....	.....	.....	.....	258,276
Waterloo . . . . .	.....	6,435	26,675	.....	.....	283,525
Boonville	1,000	.....	.....	.....	.....	27,904
Total	\$1,562,491	\$818,124	\$218,684	\$29,506	\$270,625	\$27,513,525

Property (in tons of 2,000 lbs.) left at and between offices of the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD					AGRICULTURE — VEGETABLE FOODS	
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	Wheat	Barley
Albany . . . . .	.....	.....	.....	.....	.....	.....	.....
Troy	156,431	4,412	2,873	.....	3,836	24,517	694
Rome	600	.....	1,750	.....	.....	.....	.....
Syracuse	2,320	.....	420	.....	.....	.....	2,400
Rochester	28,303	.....	.....	.....	.....	.....	.....
Tonawanda	43,200	.....	.....	.....	.....	26,607	.....
Buffalo	1,500	.....	.....	.....	.....	.....	.....
Whitehall	2,673	29,100	.....	69,922	.....	15,771	24,360
Oswego . . . . .	.....	50	.....	.....	.....	.....	.....
Watertown . . . . .	.....	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	425	.....	.....	.....	.....
Total	235,027	33,562	5,468	69,922	3,836	66,895	27,454

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS.			ALL OTHER AGRICULTURAL PRODUCTS			MANUFACTURES	
	Barley malt	Oats	Potatoes	Flax seed	Hay	Oil, meal and cake	Pig iron	
Albany
Troy	19,462	481	1,614	.....	1,257	230	21,423	.....
Rome	525	.....	.....	.....	.....	.....
Syracuse
Rochester
Tonawanda
Buffalo	17,312	.....	5,101	.....	.....	.....	.....
Whitehall
Oswego
Watertown
Boonville
Total	22,182	17,793	2,139	5,101	1,257	230	21,423	.....

Total tons carried on the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Stone, lime and clay	'Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany .....	.....	.....	.....	.....	.....	.....
Troy	111,991	109,550	15,030	.....	2,198	389,762
Rome	30,135	28,287	9,487	.....	.....	81,349
Syracuse	132,468	23,379	2,350	.....	.....	223,253
Rochester	129,606	973	16,978	.....	6	173,778
Tonawanda	10,300	.....	450	.....	.....	91,895
Buffalo	205,020	100	.....	.....	.....	382,345
Whitehall	3,486	.....	.....	5,901	2,307	248,300
Oswego	15,905	.....	.....	.....	.....	18,565
Watloo .....	.....	1,287	5,335	.....	.....	10,851
Boonville	4,000	.....	.....	.....	.....	4,952
Total	642,911	163,576	49,630	5,901	4,511	1,625,050

Value of all property carried on the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD				Agriculture— Vegetable food— Wheat
	Boards and scantling	Timber	Wood	Wood pulp	
Albany . . . . .	.....	.....	.....	.....	.....
Troy	\$453,751	.....	\$4,104	\$19,180	.....
Rome . . . . .	.....	.....	2,700	.....	.....
Syracuse	4,445	.....	400	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....
Tonawanda	1,704,047	.....	.....	.....	.....
Buffalo	43,750	.....	.....	.....	\$2,998,755
Whitehall	2,776,458	\$335,107	.....	349,608	.....
Oswego . . . . .	.....	500	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....
Boonville	46	.....	608	.....	.....
Total	\$4,982,497	\$335,607	\$7,812	\$368,788	\$2,998,755

Value of all property carried on the canals, etc. — (Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS				ALL OTHER AGRICULTURAL PRODUCTS	
	Barley	Barley malt	Oats	Potatoes	Flax seed	Hay
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy . . . . .	.....	.....	.....	\$54,450	\$306,000	\$25,139
Rome . . . . .	.....	.....	.....	26,250	.....	.....
Syracuse	\$50,000	\$96,000	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....
Buffalo	1,123,900	1,368,420	\$627,577	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....
Watertown . . . . .	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	26,250	.....	.....
Total	\$1,173,900	\$1,464,420	\$627,577	\$106,950	\$306,000	\$25,139

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MANUFACTURES					
	Domestic spirits	Oil, meal and cake	Pig iron	Bloom and bar iron	Castings and ironware	Domestic salt
Albany
Troy	\$2,983	.....	.....	.....	.....	.....
Rome
Syracuse	\$178,046
Rochester	123,200
Tonawanda
Buffalo	\$9,184	\$551,419	\$14,560	\$653,116	.....
Whitehall
Oswego
Waterloo	19,165
Boonville
Total	\$2,983	\$9,184	\$551,419	\$14,650	\$653,116	\$320,411

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MERCHANDISE					Other articles— Ice
	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise	
Albany.....
Troy.....	\$51,275	\$189,768	\$3,360	.....	\$3,158,505	\$206,072
Rome.....	1,102,467	.....
Syracuse.....	16,650	.....	2,767,994	40,604
Rochester.....	1,389,500	.....
Tonawanda.....
Buffalo.....	191,322	.....	966,390	.....
Whitehall.....	96,020	.....
Oswego.....	\$4,800	249,000	.....
Waterloo.....	231,250	.....
Boonville.....
Total.....	\$51,275	\$189,768	\$211,332	\$4,800	\$9,961,126	\$246,676

Value of all property carried on the canals, etc. — (Concluded).

OFFICES	OTHER ARTICLES					Total value
	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy	\$279,978	\$547,749	\$75,151	.....	\$131,865	\$5,509,330
Rome	75,339	141,434	23,842	.....	.....	1,372,032
Syracuse	331,171	116,890	5,875	.....	.....	3,608,075
Rochester	324,013	5,116	84,891	.....	360	1,927,080
Tonawanda	25,750	.....	2,250	.....	.....	1,732,047
Buffalo	512,550	500	.....	.....	.....	9,061,443
Whitehall	8,714	.....	.....	\$29,506	138,400	3,733,813
Oswego	3,976	.....	.....	.....	.....	258,276
Watloo . . . . .	.....	6,435	26,675	.....	.....	283,525
Boonville	1,000	.....	.....	.....	.....	27,904
Total	\$1,562,491	\$818,124	\$218,684	\$29,506	\$270,625	\$27,513,525

Property (in tons of 2,000 lbs.) left at and between offices of the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD					AGRICULTURE — VEGETABLE FOODS	
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	Wheat	Barley
Albany . . . . .	.....	.....	.....	.....	.....	.....	.....
Troy	156,431	4,412	2,873	.....	3,836	24,517	694
Rome	600	.....	1,750	.....	.....	.....	.....
Syracuse	2,320	.....	420	.....	.....	.....	2,400
Rochester	28,303	.....	.....	.....	.....	26,607	.....
Tonawanda	43,200	.....	.....	.....	.....	.....	.....
Buffalo	1,500	.....	.....	.....	.....	15,771	24,360
Whitehall	2,673	29,100	.....	69,922	.....	.....	.....
Oswego . . . . .	.....	50	.....	.....	.....	.....	.....
Watertown . . . . .	.....	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	425	.....	.....	.....	.....
Total	235,027	33,562	5,468	69,922	3,836	66,895	27,454

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS.			ALL OTHER AGRICULTURAL PRODUCTS		MANUFACTURES	
	Barley malt	Oats	Potatoes	Flax seed	Hay	Oil, meal and cake	Pig iron
Albany	19,462	481	1,614	.....	.....	.....	.....
Troy . . . . .	.....	.....	525	.....	1,257	230	21,423
Rome	2,720	.....	.....	.....	.....	.....	.....
Syracuse . . . . .	.....	.....	.....	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....	.....
Buffalo . . . . .	.....	17,312	.....	5,101	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	.....	.....	.....	.....
Total	22,182	17,793	2,139	5,101	1,257	230	21,423

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal during the season of 1916.

OFFICES	The Forest— Produce's of wood— Boards and scantling	AGRICULTURE — VEGETABLE FOODS			
		Wheat	Barley	Barley malt	Oats
Troy	6,429	24,517	694	19,462	481
Total	6,429	24,517	694	19,462	481

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal, etc.—(Continued).

OFFICES	Agriculture— Vegetable foods— Potatoes	All other agricultural products— Hay	MANUFACTURES			
			Oil, meal and cake	Pig iron	Castings and ironware	Domestic salt
Troy	525	821	230	21,423	10,857	27,972
Total	525	821	230	21,423	10,857	27,972

Total tons carried on the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Stone, lime and clay	'Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany	111,991	109,550	15,030	.....	.....	389,762
Troy	30,135	28,287	9,487	.....	2,198	81,349
Rome	132,468	23,379	2,350	.....	.....	223,253
Syracuse	129,606	973	16,978	.....	6	173,778
Rochester	10,300	.....	450	.....	.....	91,895
Tonawanda	205,020	100	.....	.....	.....	382,345
Buffalo	3,486	.....	.....	5,901	2,307	248,300
Whitehall	15,905	.....	.....	.....	.....	18,565
Oswego . . . . .	.....	1,287	5,335	.....	.....	10,851
Waterloo	4,000	.....	.....	.....	.....	4,952
Boonville . . . . .	.....	.....	.....	.....	.....	.....
Total	642,911	163,576	49,630	5,901	4,511	1,625,050

Value of all property carried on the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD				Agriculture— Vegetable food— Wheat
	Boards and scantling	Timber	Wood	Wood pulp	
Albany . . . . .	.....	.....	.....	.....	.....
Troy	\$453,751	.....	\$4,104	\$19,180	.....
Rome . . . . .	.....	.....	2,700	.....	.....
Syracuse	4,445	.....	400	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....
Tonawanda	1,704,047	.....	.....	.....	.....
Buffalo	43,750	.....	.....	.....	\$2,998,755
Whitehall	2,776,458	\$335,107	.....	349,608	.....
Oswego . . . . .	.....	500	.....	.....	.....
Watertown . . . . .	.....	.....	.....	.....	.....
Boonville	46	.....	608	.....	.....
Total	\$4,982,497	\$335,607	\$7,812	\$368,788	\$2,998,755

Value of all property carried on the canals, etc. — (Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS				ALL OTHER AGRICULTURAL PRODUCTS	
	Barley	Barley malt	Oats	Potatoes	Flax seed	Hay
Albany . . . . .	.....	.....	.....	.....	.....	.....
Troy . . . . .	.....	.....	.....	\$54,450	\$306,000	\$25,139
Rome . . . . .	.....	.....	.....	26,250	.....	.....
Syracuse	\$50,000	\$96,000	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....
Buffalo	1,123,900	1,368,420	\$627,577	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....
Watloo . . . . .	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	26,250	.....	.....
Total	\$1,173,900	\$1,464,420	\$627,577	\$106,950	\$306,000	\$25,139

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MANUFACTURES					
	Domestic spirits	Oil, meal and cake	Pig iron	Bloom and bar iron	Castings and ironware	Domestic salt
Albany
Troy	\$2,983	.....	.....	.....	.....	.....
Rome
Syracuse	\$178,046
Rochester	123,200
Tonawanda
Buffalo	\$9,184	\$551,419	\$14,560	\$653,116	.....
Whitehall
Oswego
Waterloo	19,165
Boonville
Total	\$2,983	\$9,184	\$551,419	\$14,650	\$653,116	\$320,411

Value of all property carried on the canals, etc. — (Continued).

OFFICES	MERCHANDISE					Other articles— Ice
	Sugar	Coffee	Iron and steel	Railroad iron	All other merchandise	
Albany
Troy	\$51,275	\$189,768	\$3,360	.....	\$3,158,505	\$306,073
Rome	1,102,467	.....
Syracuse	16,650	.....	2,767,994	40,604
Rochester	1,389,500	.....
Tonawanda
Buffalo	191,322	.....	966,390	.....
Whitehall	96,020	.....
Oswego	\$4,800	249,000	.....
Waterloo	231,250	.....
Boonville
Total	\$51,275	\$189,768	\$211,332	\$4,800	\$9,961,126	\$324,676

Value of all property carried on the canals, etc. — (Concluded).

OFFICES	OTHER ARTICLES					Total value
	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany .....	.....	.....	.....	.....	.....	.....
Troy	\$279,978	\$547,749	\$75,151	.....	\$131,865	\$5,509,330
Rome	75,339	141,434	23,842	.....	.....	1,372,032
Syracuse	331,171	116,890	5,875	.....	.....	3,608,075
Rochester	324,013	5,116	84,891	.....	360	1,927,080
Tonawanda	25,750	.....	2,250	.....	.....	1,732,047
Buffalo	512,550	500	.....	.....	.....	9,061,443
Whitehall	8,714	.....	.....	\$29,506	138,400	3,733,813
Oswego	3,976	.....	.....	.....	.....	258,276
Waterloo .....	.....	8,435	26,675	.....	.....	283,525
Boonville	1,000	.....	.....	.....	.....	27,904
Total	\$1,562,491	\$818,124	\$218,684	\$29,506	\$270,625	\$27,513,525

Property (in tons of 2,000 lbs.) left at and between offices of the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD				AGRICULTURE — VEGETABLE FOODS		
	Boards and scantling	Timber	Wood	Pulp wood	Wood pulp	Wheat	Barley
Albany .....	.....	.....	.....	.....	.....	.....	.....
Troy	156,431	4,412	2,873	.....	3,836	24,517	694
Rome	600	.....	1,750	.....	.....	.....	.....
Syracuse	2,320	.....	420	.....	.....	.....	2,400
Rochester	28,303	.....	.....	.....	.....	26,607	.....
Tonawanda	43,200	.....	.....	.....	.....	.....	.....
Buffalo	1,500	.....	.....	.....	.....	15,771	24,360
Whitehall	2,673	29,100	.....	69,922	.....	.....	.....
Oswego .....	.....	50	.....	.....	.....	.....	.....
Waterloo .....	.....	.....	.....	.....	.....	.....	.....
Boonville .....	.....	.....	425	.....	.....	.....	.....
Total	235,027	33,562	5,468	69,922	3,836	66,895	27,454

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS.			ALL OTHER AGRICULTURAL PRODUCTS		MANUFACTURES	
	Barley malt	Oats	Potatoes	Flax seed	Hay	Oil, meal and cake	Pig iron
Albany	19,462	481	1,614	.....	1,257	230	21,423
Troy . . . . .	.....	.....	525	.....	.....	.....	.....
Rome	2,720	.....	.....	.....	.....	.....	.....
Syracuse . . . . .	.....	.....	.....	.....	.....	.....	.....
Rochester . . . . .	.....	.....	.....	.....	.....	.....	.....
Tonawanda . . . . .	.....	.....	.....	.....	.....	.....	.....
Buffalo . . . . .	.....	17,312	.....	5,101	.....	.....	.....
Whitehall . . . . .	.....	.....	.....	.....	.....	.....	.....
Oswego . . . . .	.....	.....	.....	.....	.....	.....	.....
Waterloo . . . . .	.....	.....	.....	.....	.....	.....	.....
Boonville . . . . .	.....	.....	.....	.....	.....	.....	.....
Total	22,182	17,793	2,139	5,101	1,257	230	21,423

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Continued).

OFFICES	MANUFACTURES		MERCHANDISE			
	Castings and ironware	Domestic salt	Sugar	Coffee	Iron and steel	Railroad iron
Albany	.....	.....	.....	.....	.....	.....
Troy	10,857	27,972	147	.....	56	.....
Rome	.....	.....	.....	.....	.....	.....
Syracuse	.....	6,163	173	.....	198	.....
Rochester	.....	.....	73	.....	.....	.....
Tonawanda	.....	.....	.....	.....	.....	.....
Buffalo	.....	.....	.....	790	.....	.....
Whitehall	.....	.....	.....	.....	.....	.....
Oswego	.....	.....	.....	.....	.....	120
Watloo	.....	.....	.....	.....	.....	.....
Boonville	.....	.....	.....	.....	.....	.....
Total	10,857	34,135	393	790	254	120
						105,571

Property (in tons of 2,000 lbs.) left at and between offices on the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES						Total tons
	Ice	Stone, lime and clay	Anthracite coal	Bituminous coal	Iron ore	Sundries	
Albany	82,425	36,671	34,180	9,853	5,902	4,407	460,972
Troy	16,242	25,511	28,769	12,820			83,441
Rome		158,487	22,534	10,011			247,037
Syracuse		100,149	1,232	1,699		200	172,838
Rochester		14,212					57,412
Tonawanda		236,431	100				321,957
Buffalo		20,021	75,333	9,867		140	221,035
Whitehall		15,905					20,068
Oswego		27,556	1,287	4,941			36,109
Waterloo							425
Boonville							
Total	98,667	634,943	163,435	49,191	5,902	4,747	1,621,294

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal during the season of 1916.

OFFICES	The Forest— Products of wood— Boards and scantling	AGRICULTURE — VEGETABLE FOODS			
		Wheat	Barley	Barley malt	Oats
Troy	6,429	24,517	694	19,462	481
Total	6,429	24,517	694	19,462	481

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal, etc.—(Continued).

OFFICES	Agriculture— Vegetable foods— Potatoes	All other agricultural products— Hay	MANUFACTURES			
			Oil, meal and cake	Pig iron	Castings and ironware	Domestic salt
Troy	525	821	230	21,423	10,857	27,972
Total	525	821	230	21,423	10,857	27,972

Property (in tons of 2,000 lbs.) arriving at tide water from the Erie canal, etc.—(Concluded).

OFFICES	Merchandise	OTHER ARTICLES				Total tons
		Ice	Stone, lime and clay	Bituminous coal	Sundries	
Troy	155	27,674	7,196	5,505	240	154,181
Total	155	27,674	7,196	5,505	240	154,181

Property (in tons of 2,000 lbs.) arriving at tide water from the Champlain canal during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			Agriculture— Vegetable food: Potatoes	Other agricultural products— Hay
	Boards and scantling	Timber	Wood		
Troy	148,659	4,412	2,873	1,089	436
Total	148,659	4,412	2,873	1,089	436

Property (in tons of 2,000 lbs.) arriving at tide water from the Champlain canal, etc. — (Concluded).

OFFICES	Merchandise	OTHER ARTICLES				Total tons
		Ice	Stone, lime and clay	Iron ore	Sundries	
Troy	3,245	54,751	19,459	5,902	2,500	243,326
Total	3,245	54,751	19,459	5,902	2,500	243,326

Property (in tons of 2,000 lbs.) arriving at tide water from all canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			AGRICULTURE — VEGETABLE FOODS		
	Boards and scantling	Timber	Wood	Wheat	Barley	Barley malt
Troy	155,088	4,412	2,873	24,517	694	19,462
Total	155,088	4,412	2,873	24,517	694	19,462

Property (in tons of 2,000 lbs.) arriving at tide water from all canals, etc.—(Continued).

OFFICES	AGRICULTURAL PRODUCTS				MANUFACTURES			
	Oats	Potatoes	Hay	Oil, meal and cake	Pig iron	Castings and ironware	Domestic salt	
Troy	481	1,614	1,257	230	21,423	10,857	27,972	
Total	481	1,614	1,257	230	21,423	10,857	27,972	

Property (in tons of 2,000 lbs.) arriving at tide water from all canals, etc.—(Concluded).

OFFICES	Merchandise	OTHER ARTICLES					Total tons
		Ice	Stone, lime and clay	Bituminous coal	Iron ore	Sundries	
Troy	3,400	82,425	26,655	5,505	5,902	2,740	397,507
Total	3,400	82,425	26,655	5,505	5,902	2,740	397,507

Value of all property left at tide water from the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			AGRICULTURE — VEGETABLE FOODS		
	Boards and scantling	Timber	Wood	Wheat	Barley	Barley malt
Troy	\$3,256,839	\$44,120	\$4,104	\$1,103,267	\$28,900	\$1,373,760
Total	\$3,256,839	\$44,120	\$4,104	\$1,103,267	\$28,900	\$1,373,760

Value of all property left at tide water from the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS		All other agricultural products— Hay	MANUFACTURES			
	Oats	Potatoes		Oil, meal and cake	Pig iron	Castings and ironware	Domestic salt
Troy	\$16,528	\$80,700	\$25,139	\$9,184	\$535,585	\$651,438	\$279,720
Total	\$16,528	\$80,700	\$25,139	\$9,184	\$535,585	\$651,438	\$279,720

Value of all property left at tide water from the canals, etc.—(Concluded).

OFFICES	Merchandise	OTHER ARTICLES				Total value
		Ice	Stone, lime and clay	Bituminous coal	Iron ore	
Troy	\$340,040	\$206,062	\$66,637	\$27,525	\$29,508	\$8,243,429
Total	\$340,040	\$206,062	\$66,637	\$27,525	\$29,508	\$8,243,429

Property (in tons of 2,000 lbs.) that went to New York from the Erie canal during the season of 1916.

OFFICES	AGRICULTURE — VEGETABLE FOODS				
	Wheat	Barley	Barley malt	Oats	Potatoes
Troy	24,517	694	19,462	481	525
Total	24,517	694	19,462	481	525

Property (in tons of 2,000 lbs.) that went to New York from the Erie canal, etc. (Continued).

OFFICES	All other agricultural products-- Hay	MANUFACTURES			
		Oil, meal and cake	Pig iron	Coatings and ironware	Domestic salt
Troy	821	230	21,123	10,857	27,972
Total	821	230	21,123	10,857	27,972

Property (in tons of 2,000 lbs.) that went to New York from the Erie canal, etc. — (Concluded).

OFFICES	OTHER ARTICLES				Total tons
	Merchandise	Ice	Stone, lime and clay	Sundries	
Troy	11	27,674	6,916	240	141,823
Total	11	27,674	6,916	240	141,823

Property (in tons of 2,000 lbs.) that went to New York from the Champlain canal during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			AGRICULTURAL PRODUCTS	
	Boards and scantling	Timber	Wood	Potatoes	Hay
Troy	148,659	4,412	2,873	1,089	436
Total	148,659	4,412	2,873	1,089	436

Property (in tons of 2,000 lbs.) that went to New York from the Champlain canal, etc.—(Concluded).

OFFICES	OTHER ARTICLES					Total tons
	Merchandise	Ice	Stone, lime and clay	Iron ore	Sundries	
Troy	3,245	54,751	19,459	5,902	2,500	243,326
Total	3,245	54,751	19,459	5,902	2,500	243,326

Property (in tons of 2,000 lbs.) that went to New York from all canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			AGRICULTURE — VEGETABLE FOODS		
	Boards and scantling	Timber	Wood	Wheat	Barley	Barley malt
Troy	148,659	4,412	2,873	24,517	694	19,462
Total	148,659	4,412	2,873	24,517	694	19,462

Property (in tons of 2,000 lbs.) that went to New York from all canals, etc.—(Continued).

OFFICES	AGRICULTURAL PRODUCTS			MANUFACTURES		
	Oats	Potatoes	Hay	Oil, meal and cake	Pig iron	Castings and ironware
Troy	481	1,614	1,257	230	21,423	10,857
Total	481	1,614	1,257	230	21,423	10,857

Property (in tons of 2,000 lbs.) that went to New York from all canals, etc.—(Concluded).

OFFICES	Manufactures— Domestic salt	OTHER ARTICLES					Total tons
		Merchandise	Ice	Stone, lime and clay	Iron ore	Sundries	
Troy	27,972	3,256	88,425	26,375	5,902	2,740	385,149
Total	27,972	3,256	88,425	26,375	5,902	2,740	385,149

Value of all the property that went to New York from the canals during the season of 1916.

OFFICES	THE FOREST — PRODUCTS OF WOOD			AGRICULTURE — VEGETABLE FOODS		
	Boards and Scantling	Timber	Wood	Wheat	Barley and Malt	Barley malt
Troy	\$3,121,840	\$44,120	\$4,104	\$1,103,267	\$28,900	\$1,373,760
Total	\$3,121,840	\$44,120	\$4,104	\$1,103,267	\$28,900	\$1,373,760

Value of all the property that went to New York from the canals, etc.—(Continued).

OFFICES	AGRICULTURE — VEGETABLE FOODS		All other agricultural products— Hay	MANUFACTURES		
	Oats	Potatoes		Oil, meal and cake	Pig iron	Castings and ironware
Troy	16,528	80,700	25,139	9,184	535,585	651,438
Total	16,528	80,700	25,139	9,184	535,585	651,438

Value of all the property that went to New York from the canals, etc.—(Concluded).

OFFICES	OTHER ARTICLES						Total value
	Domestic salt	Merchandise	Ice	Stone, lime and clay	Iron ore	Sundries	
Troy	279,720	325,605	206,062	65,937	29,508	164,373	8,065,770
Total	279,720	325,605	206,062	65,937	29,508	164,373	8,065,770

300 REPORT OF SUPERINTENDENT OF PUBLIC WORKS.

STATEMENT showing the total quantity (in tons of 2,000 pounds)
of property cleared at Buffalo during the season of 1916, and
the value of the same.

ARTICLES	Tons	Value
Boards and scantling.....	2,083	\$43,750
Wheat.....	66,639	2,998,755
Oil meal and cake.....	230	9,184
Barley.....	26,974	1,123,900
Barley malt.....	19,389	1,368,420
Oats.....	18,257	627,577
Pig iron.....	22,057	551,419
All other merchandise.....	9,664	966,390
Stone, lime and clay.....	205,020	512,550
Anthracite coal.....	100	500
Iron and steel.....	319	19,122
Bloom iron.....	728	14,560
Castings and iron ware.....	10,885	653,116
Total tons and value.....	382,345	\$8,889,243

STATEMENT showing the total quantity (in tons of 2,000 pounds)
of property left at Buffalo during the season of 1916, and the
value of the same.

ARTICLES	Tons	Value
Boards and scantling.....	1,500	\$31,500
Wheat.....	15,771	709,695
Flaxseed.....	5,101	306,084
Barley.....	24,360	1,015,000
Coffee.....	790	189,652
All other merchandise.....	20,592	2,059,226
Stone, lime and clay.....	236,431	591,078
Anthracite coal.....	100	500
Oats.....	17,312	595,100
Total tons and value.....	321,957	\$5,497,835

STATEMENT showing the total quantity (in tons of 2,000 pounds)
of property cleared on the Oswego canal during the season of
1916, and the value of the same.

ARTICLES	Tons	Value
Bituminous coal	100	\$250
Boards and scantling	3	70
All other merchandise	12,240	1,223,950
Stone, lime and clay	101,925	254,815
Anthracite coal	2,586	12,928
Wood	140	200
Ice	16,224	40,559
Timber	50	500
Barley	1,200	50,000
Barley malt	1,360	96,000
Railroad iron	120	4,800
Total tons and value.....	135,948	\$1,684,072

STATEMENT showing the total quantity (in tons of 2,000 pounds)
of property left on the Oswego canal during the season of 1916,
and the value of the same.

ARTICLES	Tons	Value
Bituminous coal	100	\$250
Railroad iron	120	4,800
Boards and scantling	3	70
All other merchandise	12,260	1,226,000
Stone, lime and clay	102,285	255,715
Anthracite coal	2,586	12,928
Wood	140	200
Ice	16,224	40,559
Timber	50	500
Barley	1,200	50,000
Barley malt	1,360	96,000
Total tons and value.....	136,328	\$1,687,022

STATEMENT showing the total quantity (in tons of 2,000 pounds)
of property cleared on the Black River canal during the season
of 1916, and the value of the same.

ARTICLES	Tons	Value
Boards and scantling.....	2	\$46
Wood	2,035	2,908
Potatoes	525	26,250
All other merchandise.....	1,650	164,972
Bituminous coal	106	390
Stone, lime and clay.....	15,120	37,801
Anthracite coal	1,026	5,130
Total tons and value.....	20,464	\$237,497

STATEMENT showing the total quantity (in tons of 2,000 pounds)
of property left on the Black River canal during the season of
1916, and the value of the same.

ARTICLES	Tons	Value
Wood	2,035	\$2,908
All other merchandise.....	1,670	167,039
Stone, lime and clay.....	14,905	37,263
Anthracite coal	1,026	5,130
Bituminous coal	106	390
Potatoes	525	26,250
Total tons and value.....	20,267	\$238,990

STATEMENT showing the total quantity (in tons of 2,000 pounds) of property cleared on the Cayuga and Seneca canal during the season of 1916, and the value of the same.

ARTICLES	Tons	Value
Domestic salt	6,199	\$61,987
All other merchandise.....	4,860	486,000
Anthracite	1,287	6,435
Bituminous coal	5,335	26,675
Stone, lime and clay.....	26,660	66,648
Iron and steel.....	80	4,800
Total tons and value.....	44,421	\$652,545

STATEMENT showing the total quantity (in tons of 2,000 pounds) of property left on the Cayuga and Seneca canal during the season of 1916, and the value of the same.

ARTICLES	Tons	Value
All other merchandise.....	4,663	\$466,250
Stone, lime and clay.....	27,556	68,890
Bituminous coal	5,389	25,828
Domestic salt	6,163	61,627
Iron and steel.....	80	4,800
Anthracite coal	1,287	6,435
Total tons and value.....	45,138	\$633,830

304 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

STATEMENT showing the total quantity (in tons of 2,000 pounds) of property cleared at Whitehall during the season of 1916, and the value of the same.

ARTICLES	Tons	Value
Boards and scantling.....	132,213	\$2,776,458
Timber	33,511	335,167
Pulp wood	69,922	349,668
All other merchandise.....	960	96,020
Stone, lime and clay.....	3,486	8,714
Iron ore	5,901	29,508
Sundries	2,307	138,400
Total tons and value.....	248,300	\$3,733,813

STATEMENT showing the total quantity (in tons of 2,000 pounds) of property left at Whitehall during the season of 1916, and the value of the same.

ARTICLES	Tons	Value
Boards and scantling.....	2,673	\$56,125
Pulp wood	69,922	349,668
All other merchandise.....	13,979	1,397,883
Stone, lime and clay.....	20,021	50,052
Anthracite coal	75,333	376,866
Bituminous coal	9,867	49,337
Timber	29,100	290,996
Sundries	140	8,380
Total tons and value.....	221,035	\$2,579,047

ANNUAL STATEMENT showing the total quantity of shipments of each article first cleared on the canal at, and the total quantity of shipments of each article left from the canal at Whitehall from the 15th day of May, 1916, to the 30th day of November, 1916, going to and coming from New York, Vermont and Canada.

ARTICLES	QUANTITY CLEARED			
	Coming from Canada	Coming from New York	Coming from Vermont	Total cleared
THE FOREST				
<i>Product of wood:</i>				
Boards and scantling (feet)	76,746,002	166,143	2,415,218	79,327,363
Timber (cubic feet)	220,555	1,454,980	.....	1,675,535
Pulp wood (pounds)	139,843,200	.....	.....	139,843,200
MERCHANDISE				
All other merchandise (pounds)	1,920,400	.....	.....	1,920,400
<i>Other articles:</i>				
Stone, lime and clay (pounds) .....	.....	6,971,120	.....	6,971,120
Iron ore (pounds) .....	.....	11,802,560	.....	11,802,560
Sundries (pounds) .....	.....	525,600	4,087,720	4,613,320

Statement showing the total quantity of shipments of each article first cleared on canal, etc.—(Concluded).

ARTICLES	QUANTITY LEFT			
	Going to Canada	Going to New York	Going to Vermont	Total left
THE FOREST				
<i>Product of wood:</i>				
Boards and scantling (feet).....	.....	1,330,413	273,143	1,603,556
Timber (cubic feet).....	.....	1,454,980	.....	1,454,980
Pulp wood (pounds).....	.....	139,843,200	.....	139,843,200
MERCHANDISE				
All other merchandise (pounds).....	27,556,701	.....	400,960	27,957,661
<i>Other articles:</i>				
Stone, lime and clay (pounds).....	37,445,183	2,596,000	.....	40,041,183
Anthracite coal (pounds).....	141,082,154	1,214,040	8,370,023	150,666,217
Bituminous coal (pounds).....	716,988	7,087,925	11,929,864	19,734,777
Sundries (pounds).....	.....	224,000	55,320	279,320

The following statement shows the average lake and canal rates on wheat and corn since 1890.

YEAR	Freight, Buffalo to New York	Tolls	Lake freight.
1890.	c. m. fr.	c. fr.	c. m. fr.
Wheat, per bushel.....	3 8 7	.....	1 9 8
Corn, per bushel.....	3 3 9	.....	1 6 9
1891.			
Wheat, per bushel.....	3 5 3	.....	.....
Corn, per bushel.....	3 2 0	.....	.....
1892.			
Wheat, per bushel.....	3 4 4	.....	2 2 1
Corn, per bushel.....	3 5 5	.....	1 9 5
1893.			
Wheat, per bushel.....	4 6 5	.....	1 6 6
Corn, per bushel.....	4 2 8	.....	1 4 5
1894.			
Wheat, per bushel.....	3 1 3	.....	1 2 4
Corn, per bushel.....	2 8 8	.....	1 1 5
1895.			
Wheat, per bushel.....	2 2 0	.....	1 8 0
Corn, per bushel.....	1 9 0	.....	1 7 0
1896.			
Wheat, per bushel.....	3 7 0	.....	1 6 0
Corn, per bushel.....	3 5 0	.....	1 3 0
1897.			
Wheat, per bushel.....	1 8 4	.....	1 2 5
Corn, per bushel.....	2 3 8	.....	1 4 2
1898.			
Wheat, per bushel.....	2 8 7	.....	1 6 9
Corn, per bushel.....	2 3 6	.....	1 5 6
1899.			
Wheat, per bushel.....	2 9 2	.....	2 5 0
Corn, per bushel.....	2 5 0	.....	2 4 0
1900.			
Wheat, per bushel.....	2 5 1	.....	1 8 2
Corn, per bushel.....	2 2 2	.....	1 6 5

Average lake and canal rates on wheat and corn—(Continued).

YEAR	Freight, Buffalo to New York	Tolls	Lake freight
1901.	c. m. fr.	c. fr.	c. m. fr.
Wheat, per bushel.....	3 4 6	.....	1 7 6
Corn, per bushel.....	3 1 1	.....	1 6 4
1902.			
Wheat, per bushel.....	3 7 3	.....	1 5 0
Corn, per bushel.....	3 4 6	.....	1 3 6
1903.			
Wheat, per bushel.....	4 0 3	.....	1 4 0
Corn, per bushel.....	3 6 5	.....	1 3 1
1904.			
Wheat, per bushel.....	3 1 4	.....	1 5 0
Corn, per bushel.....	2 6 7	.....	1 3 4
1905.			
Wheat, per bushel.....	3 8 7	.....	1 6 4
Corn, per bushel.....	3 3 4	.....	1 5 0
1906.			
Wheat, per bushel.....	4 2 4	.....	1 6 7
Corn, per bushel.....	3 8 6	.....	1 5 4
1907.			
Wheat, per bushel.....	5 0 7	.....	1 5 4
Corn, per bushel.....	4 6 6	.....	1 4 1
1908.			
Wheat, per bushel.....	5 0 0	.....	1 1 0
Corn, per bushel.....	4 6 0	.....	1 0 0
1909.			
Wheat, per bushel.....	3 9 0	.....	1 2 7
Corn, per bushel.....	3 5 3	.....	1 2 7
1910.			
Wheat, per bushel.....	4 0 8	.....	1 0 6
Corn, per bushel.....	3 7 1	.....	1 0 6
1911.			
Wheat, per bushel.....	4 3 6	.....	1 0 3
Corn, per bushel.....	3 9 0	.....	1 0 3

Average lake and canal rates on wheat and corn—(Concluded).

YEAR	Freight, Buffalo to New York	Tolls	Lake freight
1912.	c. m. fr.	c. fr.	c. m. fr.
Wheat, per bushel.....	4 3 2	.....	1 3 6
Corn, per bushel.....	4 2 1	.....	1 3 4
1913.			
Wheat, per bushel.....	4 5 7	.....	1 4 0
Corn, per bushel.....	4 3 0	.....	1 4 0
1914.			
Wheat, per bushel.....	4 2 7	.....	.....
Corn, per bushel.....	4 2 4	.....	.....
1915.			
Wheat, per bushel.....	4 4 7	.....	1 3 3
Corn, per bushel.....	4 3 6	.....	1 3 6
1916.			
Wheat, per bushel.....	5 0 0	.....	1 1 2
Corn, per bushel.....	5 0 0	.....	1 1 2

*Average rate on wheat and corn by lake, from Chicago to Buffalo,
during the season of 1916.*

	Wheat	Corn
	c. m. fr.	c. m. fr.
May, per bushel.....	1 1 2	1 1 2
June, per bushel.....	1 1 3	1 1 3
July, per bushel.....	1 1 2	1 1 2
August, per bushel.....	1 1 3	1 1 3
September, per bushel.....	1 1 2	1 1 2
October, per bushel.....	1 1 3	1 1 3
November, per bushel.....	1 1 2	1 1 2
Average	1 1 2	1 1 2

*Average rate on wheat and corn by canal, from Buffalo to New
York, during the season of 1916.*

	Wheat	Corn
	c. m. fr.	c. m. fr.
May, per bushel.....	5 0 0	5 0 0
June, per bushel.....	5 0 0	5 0 0
July, per bushel.....	5 0 0	5 0 0
August, per bushel.....	5 0 0	5 0 0
September, per bushel.....	5 0 0	5 0 0
October, per bushel.....	5 0 0	5 0 0
November, per bushel.....	5 0 0	5 0 0
Average	5 0 0	5 0 0

The following statement shows the number of clearances issued at each office during the season of 1916.

Albany	14
Rome	1,145
Syracuse	2,354
Rochester	2,063
Tonawanda	386
Buffalo	764
Troy	2,524
Whitehall	1,428
Oswego	236
Waterloo	77
Boonville	67
Total	<hr/> 11,058 <hr/> <hr/>

Receipts by all routes at New York, May 1 to November 30, 1916.

	Hudson	Erie	Pennsylvania	D., L. & W	West Shore
Flour, barrels	580,735	195,376	313,504	437,896	388,015
Meal, barrels	200	1,677	164	.....	.....
Meal, sacks	76,837	42,653	16,555	22,295	15,558
Wheat, bushels	137,120	13,626,500	1,570,600	25,989,800	24,588,990
Corn, bushels	43,400	3,215,800	9,800	1,307,600	1,825,900
Oats, bushels	5,347,600	3,035,900	274,000	4,506,800	3,119,700
Barley, bushels	72,500	730,700	51,000	505,500	1,758,725
Rye, bushels	12,500	36,250	56,250	297,500	122,500
Malt, bushels	363,600	140,800	35,200	943,000	132,800
Peas, bushels	51,635	800	16,800	8,000	4,200
Total grain	6,028,355	20,786,750	2,013,650	33,558,200	31,552,745
Flour, bushels	2,613,307	879,193	1,410,768	1,970,532	1,746,067
Meal, bushels	154,474	92,014	33,766	44,590	31,116
Grand total	8,796,136	21,757,957	3,458,184	35,573,322	33,329,928
Per cent	5.89	14.58	2.31	23.83	22.34

Receipts by all routes at New York, etc. — (Continued).

	L. V. R. R.	B. & O. R. R.	Various	Total rail
Flour, barrels	2,238,542	174,190	42,990	4,371,248
Meal, barrels .....	.....	3,698	.....	5,739
Meal, sacks	148,305	207,720	11,400	541,323
Wheat, bushels	19,057,400	4,200	.....	84,974,540
Corn, bushels	29,400	2,800	1,400	6,436,100
Oats, bushels	5,479,700	10,000	296,000	22,069,700
Barley, bushels	712,300	.....	6,800	3,837,525
Rye, bushels	43,500	.....	.....	568,500
Malt, bushels	246,400	3,200	1,600	1,866,600
Peas, bushels	8,200	3,400	.....	93,035
Total grain	25,576,900	23,600	305,800	119,946,000
Flour, bushels	10,073,439	783,855	193,455	19,670,616
Meal, bushels	296,610	430,232	22,800	1,105,602
Grand total	35,946,949	1,237,687	522,055	140,622,218
Per cent	24.09	.83	.35	94.22

Receipts by all routes at New York, etc. -- (Concluded).

	River and coast	Canal	Total water	Total rail and water
Flour, barrels	37,239	.....	37,239	4,408,487
Meal, barrels	.....	.....	.....	5,739
Meal, sacks	1,600	.....	1,600	542,923
Wheat, bushels	102,600	817,500	920,100	85,894,640
Corn, bushels	1,599,500	.....	1,599,500	8,035,600
Oats, bushels	.....	.....	.....	22,069,700
Barley, bushels	4,751,273	28,000	4,779,273	8,616,798
Rye, bushels	.....	.....	.....	568,500
Malt, bushels	22,400	963,500	985,900	2,852,500
Peas, bushels	161,106	.....	161,106	254,141
Total grain	6,636,879	1,809,000	8,445,879	128,291,879
Flour, bushels	167,575	.....	167,575	19,838,191
Meal, bushels	3,200	.....	3,200	1,108,802
Grand total	6,807,654	1,809,000	8,616,654	149,238,872
Per cent	4.56	1.22	5.78	100.00

Receipts by all routes at New York, January 1 to December 31, 1916.

	Hudson	Erie	Pennsylvania	D., L. & W.	West Shore
Flour barrels	970,493	625,709	698,891	836,827	852,274
Meal, barrels	200	2,937	545	.....	.....
Meal, sacks	116,897	59,651	50,011	60,965	24,471
Wheat bushels	228,480	22,298,100	2,861,300	38,873,800	31,649,600
Corn, bushels	84,000	3,495,800	271,600	1,788,200	3,400,500
Oats, bushels	8,447,300	5,217,200	512,700	7,627,800	3,735,300
Barley, bushels	129,050	1,126,300	81,600	1,040,325	2,378,175
Rye, bushels	16,250	52,500	110,000	323,750	147,500
Malt, bushels	566,800	252,800	131,200	2,023,000	252,800
Peas, bushels	101,635	3,200	23,400	29,600	5,800
Total, grain	9,573,515	32,445,900	3,991,800	51,706,475	41,569,675
Flour, bushels	4,367,218	2,915,690	3,145,009	3,765,721	3,835,235
Meal, bushels	234,594	131,050	102,202	121,930	48,942
Grand total	14,175,327	35,392,640	7,239,011	55,594,126	45,453,852
Per cent	6.08	15.19	3.10	23.86	19.51

Receipts by all routes at New York, etc. --- (Continued).

	L. V. R. R.	B. & O. R. R.	Various	Total rail
Flour, barrels	4,227,774	446,224	59,822	8,718,014
Meal, barrels .....	.....	9,213	.....	12,895
Meal, sacks	278,935	268,191	19,800	878,921
Wheat, bushels	30,474,400	4,200	.....	126,389,880
Corn, bushels	215,600	5,600	1,400	9,262,700
Oats, bushels	7,354,000	13,400	340,100	33,247,800
Barley, bushels	1,616,800	.....	6,800	6,379,050
Rye, bushels	94,700	.....	.....	744,700
Malt, bushels	461,600	59,200	3,200	3,750,600
Pears, bushels	9,000	5,800	.....	178,435
Total grain	40,226,100	88,200	351,500	179,953,165
Flour, bushels	19,024,983	2,008,008	269,199	39,231,063
Meal, bushels	557,870	573,234	39,600	1,809,422
Grand total	59,808,953	2,669,442	660,299	220,993,650
Per cent	25.67	1.15	.28	94.84

Receipts by all routes at New York, etc. — (Concluded)

	River and coast	Canal	Total water	Total rail and water
Flour, barrels	54,420	.....	54,420	8,772,434
Meal, barrels	.....	.....	.....	12,895
Meal, sacks	1,600	.....	1,600	880,521
Wheat, bushels	108,800	817,500	926,300	127,316,180
Corn, bushels	1,792,500	.....	1,792,500	11,055,200
Oats, bushels	.....	30,000	30,000	33,277,800
Barley, bushels	7,647,973	28,000	7,675,973	14,055,023
Rye, bushels	.....	.....	.....	744,700
Malt, bushels	70,400	963,500	4,033,900	4,784,500
Peas, bushels	311,686	.....	311,686	490,121
Total grain	9,931,359	1,839,000	11,770,359	191,723,524
Flour, bushels	244,890	.....	244,890	39,475,953
Meal, bushels	3,200	.....	3,200	1,812,622
Grand total	10,179,449	1,839,000	12,018,449	233,012,099
Per cent	4.37	.79	5.16	100.00

*The following table shows the separate tonnage of the New York Central, the Erie railway and the canals
each year since 1853*

YEAR.	New York Central	Erie	Canals	Total
1853.....	360,000	631,039	4,247,853	5,238,892
1854.....	549,804	743,250	4,165,862	5,458,916
1855.....	670,073	842,048	4,022,617	5,534,738
1856.....	776,112	943,215	4,116,084	5,835,409
1857.....	838,791	978,066	3,344,061	5,160,918
1858.....	765,407	816,954	3,665,192	5,247,553
1859.....	834,319	869,073	3,781,684	5,485,076
1860.....	1,028,183	1,139,554	4,650,554	6,817,951
1861.....	1,167,302	1,253,418	4,507,635	6,928,355
1862.....	1,387,433	1,632,955	5,598,785	8,619,173
1863.....	1,449,604	1,815,096	5,557,692	8,822,392
1864.....	1,557,148	2,170,798	4,852,941	8,580,887
1865.....	1,275,299	2,234,350	4,729,654	8,239,303
1866.....	1,602,197	3,242,792	5,775,220	10,620,209
1867.....	1,667,926	3,484,546	5,688,325	10,840,797
1868.....	1,846,599	3,908,243	6,442,225	12,197,067
1869.....	2,281,885	4,312,209	5,859,080	12,453,174
1870.....	4,122,000	4,852,505	6,173,769	15,148,274
1871.....	4,532,956	4,844,208	6,467,888	15,844,152
1872.....	4,393,965	5,564,274	6,673,370	16,631,609

1873.....	5,522,724	6,312,702	6,364,782	18,200,208
1874.....	6,114,678	6,364,276	5,804,588	18,283,542
1875.....	6,001,954	6,239,946	4,859,858	17,101,758
1876.....	6,803,080	5,972,818	4,172,129	16,948,627
1877.....	6,351,356	6,182,451	4,955,963	17,489,770
1878.....	7,695,413	6,150,568	5,171,320	19,017,301
1879.....	9,015,753	8,212,641	5,362,372	22,590,766
1880.....	10,533,038	8,715,892	6,457,556	25,706,486
1881.....	11,591,379	11,086,823	5,179,192	27,857,394
1882.....	11,330,393	11,895,238	5,467,423	28,693,054
1883.....	10,892,440	13,610,623	5,684,956	30,168,019
1884.....	10,212,418	11,071,938	5,009,488	26,293,844
1885.....	10,733,499	10,253,489	4,731,784	25,718,772
1886.....	12,636,485	18,668,238	5,293,982	36,598,705
1887.....	14,531,726	13,949,260	5,553,805	34,034,791
1888.....	15,162,812	15,174,009	4,942,948	35,279,769
1889.....	15,011,541	14,084,132	5,370,369	34,466,042
1890.....	16,108,441	16,269,656	5,246,102	37,624,199
1891.....	16,621,576	17,339,140	4,563,472	38,524,188
1892.....	20,721,752	18,334,716	4,281,995	43,388,463
1893.....	21,312,072	17,309,198	4,031,963	42,953,233
1894.....	18,728,592	15,305,260	3,882,560	37,916,412
1895.....	19,741,495	12,928,530	3,500,314	36,170,339
1896.....	22,123,617	22,562,243	3,714,894	48,400,754
1897.....	20,649,810	19,443,898	3,617,804	43,711,512
1898.....	23,403,439	22,547,529	3,360,063	49,311,031
1899.....	25,356,474	22,660,236	3,686,051	51,702,761
1900.....	37,586,496	26,501,104	3,345,941	65,433,541
1901.....	37,403,122	24,817,112	3,420,613	65,640,847

Separate tonnage of the New York Central, the Erie railway and the canals, etc.—(Concluded)

YEAR.	New York Central	Erie	Canals	Total
1902.....	42,552,586	26,248,575	3,274,610	72,075,771
1903.....	38,081,380	30,586,743	3,616,385	72,284,508
1904.....	36,379,655	28,992,293	3,138,547	68,510,495
1905.....	39,734,512	30,791,733	3,226,896	73,753,141
1906.....	43,268,731	35,434,584	3,540,907	82,244,222
1907.....	45,967,208	38,201,663	3,407,914	87,576,785
1908.....	41,980,296	32,860,498	3,051,877	77,892,611
1909.....	40,894,086	32,000,752	3,116,536	76,011,374
1910.....	46,642,539	37,630,297	3,073,412	87,346,248
1911.....	46,895,761	36,502,080	3,097,068	86,492,909
1912.....	48,571,491	35,544,620	2,806,116	86,922,227
1913.....	55,582,087	40,026,986	2,602,035	98,211,108
1914.....	51,198,706	37,282,554	2,080,850	90,562,110
1915.....	64,287,881	35,257,739	1,858,114	101,403,734
1916.....	*103,860,652	42,786,933	1,625,050	148,272,635

* Large increase in tonnage on the N. Y. C. R. R. caused by addition to tonnage on loads taken over under consolidation.

Table showing the losses or gains in the tonnage of the New York Central, the Erie railway and the canals each year since 1853, comparison being made with previous year

YEAR	NEW YORK CENTRAL		ERIE		CANALS	
	Gain	Loss	Gain	Loss	Gain	Loss
1854.....	189,804	.....	112,211	.....	.....	81,991
1855.....	120,269	.....	19,798	.....	.....	143,245
1856.....	106,039	.....	101,167	.....	93,456	.....
1857.....	62,679	.....	34,851	.....	.....	772,021
1858.....	.....	73,284	.....	161,112	321,131	.....
1859.....	68,912	.....	53,119	.....	116,492	.....
1860.....	193,864	.....	270,481	.....	868,530	.....
1861.....	139,119	.....	113,864	.....	.....	142,579
1862.....	220,131	.....	379,537	.....	.....	.....
1863.....	62,171	.....	182,141	.....	1,091,150	.....
1864.....	107,544	.....	355,702	.....	.....	41,093
1865.....	.....	281,849	63,552	.....	.....	704,751
1866.....	326,898	.....	1,006,442	.....	1,045,566	123,287
1867.....	65,729	.....	241,754	.....	.....	.....
1868.....	178,673	.....	423,697	.....	753,900	86,895
1869.....	435,286	.....	403,966	.....	.....	.....
1870.....	1,840,115	.....	540,296	.....	314,689	583,145
1871.....	410,056	.....	.....	8,297	294,119	.....
1872.....	.....	138,091	720,066	.....	205,482	.....

Losses or gains in the tonnage of the New York Central, the Erie railway and the canals, etc.—(Concluded).

YEAR	NEW YORK CENTRAL		ERIE		CANALS	
	Gain	Loss	Gain	Loss	Gain	Loss
1873.....	1,128,759	.....	748,430	.....	.....	308,588
1874.....	591,954	.....	51,574	.....	.....	560,194
1875.....	.....	112,724	.....	124,330	.....	944,730
1876.....	801,726	.....	.....	267,128	.....	687,729
1877.....	.....	452,324	209,633	.....	783,834	.....
1878.....	1,344,057	.....	.....	31,833	215,357	.....
1879.....	1,320,340	.....	2,062,073	.....	191,052	.....
1880.....	1,517,285	.....	503,251	.....	1,095,284	.....
1881.....	1,058,341	.....	2,370,931	.....	.....	1,278,464
1882.....	.....	260,986	808,415	.....	228,231	.....
1883.....	.....	437,953	1,715,385	.....	196,633	.....
1884.....	.....	806,022	2,608,975	.....	.....	654,568
1885.....	521,081	.....	.....	818,449	.....	277,704
1886.....	1,902,936	.....	8,414,750	.....	562,198	.....
1887.....	1,895,291	.....	.....	4,718,978	259,823	.....
1888.....	631,086	.....	1,224,749	.....	.....	610,857
1889.....	.....	151,271	.....	89,877	427,421	.....
1890.....	1,096,900	.....	1,185,524	.....	.....	124,267
1891.....	513,126	.....	1,069,884	.....	.....	682,530
1892.....	4,100,176	.....	995,576	.....	.....	281,477

1893.....	590,220	.....	1,025,518	49,968	.....
1894.....	1,012,903	.....	2,003,938	.....	449,403
1895.....	2,382,122	.....	2,376,730	.....	382,246
1896.....	.....	9,633,712	.....	214,580	.....
1897.....	1,473,807	.....	3,118,345	.....	97,090
1898.....	2,753,629	3,103,631	.....	.....	257,741
1899.....	1,953,035	112,707	.....	325,988	.....
1900.....	12,230,022	1,840,868	.....	.....	340,110
1901.....	.....	316,008	.....	74,672	.....
1902.....	5,149,464	1,431,463	.....	.....	146,003
1903.....	.....	4,338,168	.....	340,775	.....
1904.....	4,471,206	.....	1,594,450	.....	476,838
1905.....	1,701,725	.....	.....	.....	.....
1906.....	.....	1,799,440	.....	83,349	.....
1907.....	3,354,857	4,642,851	.....	314,011	.....
1908.....	3,534,219	2,767,079	.....	.....	132,993
1909.....	2,698,477	.....	5,341,165	.....	356,037
1910.....	.....	3,986,972	859,746	64,659	.....
1911.....	5,748,453	1,086,150	.....	.....	43,124
1912.....	251,222	.....	1,128,217	23,656	.....
1913.....	1,677,730	.....	957,460	.....	490,952
1914.....	7,010,596	.....	.....	.....	4,081
1915.....	.....	4,482,366	2,744,432	.....	521,185
1916.....	13,089,175	.....	2,024,815	.....	222,736
	39,572,779	7,529,194	.....	.....	233,064

The total tons coming to tide-water for each of the seventy-nine years and the aggregate value thereof, in market, as follows

YEAR	Tons	Value
1838	640,481	\$23,038,510
1839	602,128	20,163,190
1840	699,012	23,213,573
1841	774,334	27,225,322
1842	666,626	22,751,013
1843	836,861	28,453,408
1844	1,019,094	34,183,167
1845	1,204,943	45,452,321
1846	1,362,319	51,105,256
1847	1,744,283	73,092,414
1848	1,447,905	50,883,907
1849	1,579,946	52,375,521
1850	2,033,863	55,474,637
1851	1,977,151	53,927,508
1852	2,234,822	66,833,102
1853	2,505,797	73,688,044
1854	2,223,743	72,120,681
1855	1,890,593	74,177,937
1856	2,123,460	74,286,735
1857	1,617,187	51,190,018
1858	1,985,142	61,536,061
1859	2,121,672	43,175,312
1860	2,854,877	78,798,617
1861	2,980,144	81,432,759
1862	3,402,709	111,176,568
1863	3,274,727	123,173,294
1864	2,805,257	145,609,202
1865	2,730,181	113,865,846
1866	3,305,607	131,801,477
1867	3,029,695	120,902,834
1868	3,240,808	136,446,582
1869	3,096,142	144,866,060
1870	3,156,302	105,517,020
1871	3,494,801	106,874,570
1872	3,647,944	107,086,362
1873	3,376,649	97,869,497
1874	3,123,112	107,976,476
1875	2,608,777	89,447,518
1876	2,426,182	73,893,878

Total tons coming to tide-water, etc.—(Concluded)

YEAR	Tons	Value
1877	2,986,812	\$76,787,713
1878	3,637,101	78,563,710
1879	3,286,176	96,992,498
1880	4,067,402	143,572,991
1881	3,065,839	68,785,451
1882	3,068,152	74,303,139
1883	2,892,176	66,219,034
1884	2,900,788	66,718,124
1885	2,715,219	55,130,473
1886	3,215,177	67,517,864
1887	3,158,923	71,755,221
1888	2,584,661	58,801,038
1889	2,623,836	62,780,410
1890	3,024,765	62,920,266
1891	2,286,855	57,340,280
1892	2,336,519	73,698,295
1893	2,565,845	77,217,815
1894	2,256,895	51,740,449
1895	1,603,745	34,122,010
1896	2,073,378	41,985,498
1897	1,878,218	30,493,208
1898	1,609,472	27,272,655
1899	1,665,217	28,019,204
1900	1,340,631	21,249,492
1901	1,306,714	23,807,093
1902	1,240,124	21,553,144
1903	1,158,539	19,282,983
1904	938,891	16,397,293
1905	1,070,343	18,243,618
1906	1,071,072	19,429,730
1907	869,621	18,667,341
1908	855,920	15,207,680
1909	794,007	15,860,858
1910	761,260	16,090,821
1911	658,256	14,959,381
1912	518,616	9,925,754
1913	499,359	9,973,316
1914	385,696	8,400,937
1915	403,560	8,542,743
1916	397,507	8,243,429

The tons of the total movement of articles on all the canals from 1837 to 1916, both years inclusive, were as follows

YEAR	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total tons
1837.....	618,741	208,043	81,735	94,777	168,000	1,171,296
1838.....	665,089	255,227	101,526	124,290	186,879	1,333,011
1839.....	667,551	266,052	11,968	132,286	257,826	1,345,713
1840 Genesee Valley canal opened						
1841.....	587,647	393,780	100,367	112,021	222,231	1,416,046
1842.....	645,548	391,905	127,896	141,054	215,258	1,521,661
1843.....	504,597	401,276	98,968	101,446	130,644	1,236,931
1844.....	687,184	455,797	124,277	119,209	126,972	1,513,439
1845.....	864,373	509,387	144,245	141,930	156,651	1,816,586
1846.....	881,774	555,160	160,638	151,450	228,543	1,977,565
1847.....	916,976	814,258	149,006	169,799	218,623	2,268,662
1848.....	1,086,056	1,092,946	176,448	224,890	287,812	2,869,810
1849.....	1,086,080	913,824	202,781	261,458	331,287	2,796,230
1850.....	1,104,940	1,020,259	203,990	255,455	310,088	2,894,732
1851.....	1,261,991	965,619	200,218	269,370	379,419	3,076,617
1852.....	1,393,698	1,125,264	222,529	365,404	475,838	3,582,733
1853.....	1,586,080	1,213,357	207,955	420,295	435,754	3,863,441
1854.....	1,821,525	1,150,924	230,036	458,327	587,041	4,247,853
1855.....	1,768,745	992,839	258,021	406,022	740,235	4,165,862
1856.....	1,534,493	1,047,344	281,873	374,402	784,064	4,022,617
1856.....	1,478,664	1,192,673	284,901	370,768	789,076	4,116,082

1857.....	1,364,002	767,370	232,803	222,954	776,932	3,344,061
1858.....	1,232,968	1,279,391	295,903	188,441	667,989	3,665,192
1859.....	1,542,035	816,784	299,421	211,182	912,262	3,781,684
1860.....	1,509,977	1,682,754	268,759	250,360	938,364	4,650,124
1861.....	1,052,392	2,144,373	280,256	135,096	895,518	4,507,635
1862.....	1,569,674	2,494,036	364,877	167,927	1,002,271	5,598,785
1863.....	1,628,688	2,236,075	319,432	172,278	1,201,219	5,557,692
1864.....	1,478,921	1,572,836	282,354	143,984	1,374,846	4,852,941
1865.....	1,467,315	1,696,091	281,832	154,968	1,129,448	4,729,654
1866.....	1,769,994	1,786,060	302,241	179,878	1,737,047	5,775,220
1867.....	1,744,252	1,438,517	320,844	319,880	1,964,832	5,688,325
1868.....	1,958,309	1,442,147	373,262	324,064	2,344,443	6,442,225
1869.....	1,855,930	1,314,071	342,239	268,970	2,077,870	5,859,080
1870.....	1,916,511	1,309,153	352,497	271,856	2,323,752	6,173,769
1871.....	1,941,297	1,863,868	336,288	288,428	2,038,007	6,467,888
1872.....	1,950,798	1,683,962	325,564	298,758	2,414,288	6,673,370
1873.....	1,582,072	1,750,418	267,820	172,990	2,591,482	6,364,782
1874.....	1,482,753	1,772,583	246,697	132,181	2,170,374	5,804,588
1875.....	1,250,546	1,311,613	275,731	110,141	1,911,827	4,859,858
1876.....	1,175,313	1,067,497	180,201	64,943	1,694,175	4,172,129
1877.....	1,312,526	1,522,317	184,218	83,010	1,853,892	4,955,963
1878.....	1,364,120	1,921,236	220,063	138,064	1,527,837	5,171,320
1879.....	1,368,849	1,850,347	255,303	237,071	1,650,802	5,362,372
1880.....	1,566,764	2,408,358	278,114	355,165	1,849,255	6,457,656
1881.....	1,652,543	1,171,400	250,961	325,775	1,778,513	5,179,192
1882.....	1,771,743	1,173,257	187,535	283,174	2,051,714	5,467,423
1883.....	1,828,643	1,394,581	242,649	310,844	1,887,339	5,664,056
1884.....	1,671,706	1,264,237	205,013	300,480	1,568,052	5,009,488
1885.....	1,595,632	1,108,711	194,714	220,237	1,612,490	4,731,784

The tons of the total movement of articles on all the canals, etc.—(Concluded)

YEAR	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total tons
1886.....	1,523,496	1,537,331	165,760	397,249	1,670,146	5,293,982
1887.....	1,529,809	1,590,509	212,216	378,734	1,842,537	5,553,805
1888.....	1,389,728	1,177,587	153,905	206,437	2,015,291	4,942,948
1889.....	1,567,311	1,330,231	161,074	262,818	2,048,935	5,370,469
1890.....	1,397,862	1,201,916	139,310	769,672	1,737,342	5,246,102
1891.....	1,206,986	1,171,198	109,387	250,083	1,825,824	4,563,472
1892.....	1,249,381	1,038,851	125,781	292,468	1,575,514	4,281,995
1893.....	1,030,604	1,544,146	66,892	216,013	1,474,308	4,331,963
1894.....	872,601	1,412,142	87,241	352,741	1,157,835	3,882,560
1895.....	974,870	644,009	133,911	251,537	1,495,987	3,500,314
1896.....	852,467	1,126,665	152,322	270,603	1,302,837	3,714,894
1897.....	896,971	789,783	152,388	250,872	1,527,790	3,617,804
1898.....	820,668	707,855	175,632	220,107	1,435,801	3,360,063
1899.....	838,449	620,908	159,413	260,063	1,807,218	3,686,051
1900.....	726,984	511,518	142,784	250,436	1,714,219	3,345,941
1901.....	939,191	558,135	129,857	230,615	1,662,815	3,420,613
1902.....	805,067	572,676	131,755	207,972	1,557,140	3,274,610
1903.....	690,161	595,047	130,406	241,564	1,956,207	3,615,385
1904.....	738,793	427,969	129,665	200,472	1,641,648	3,138,547
1905.....	851,098	436,979	132,438	172,665	1,633,716	3,226,896
1906.....	854,610	648,715	170,584	202,285	1,664,713	3,540,907
1907.....	747,736	606,159	96,916	169,258	1,787,845	3,407,914

1908.....	565,443	449,846	106,371	166,061	1,764,156	3,051,877
1909.....	647,739	447,217	163,871	194,273	1,663,436	3,116,536
1910.....	654,094	492,536	145,419	215,446	1,565,917	3,073,412
1911.....	656,500	355,301	137,463	166,419	1,781,385	3,097,068
1912.....	584,964	196,014	119,512	152,982	1,552,644	2,606,116
1913.....	517,761	256,652	90,799	135,080	1,601,743	2,602,035
1914.....	377,127	217,397	83,504	93,095	1,309,727	2,080,850
1915.....	366,618	218,300	107,058	138,549	1,027,589	1,858,114
1916.....	350,047	142,315	65,949	101,543	965,196	1,625,050

Total tons of each class of articles which came to the Hudson river from the Erie and Champlain canals from 1837 to 1916, both years inclusive

YEAR.	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total tons
1837.....	385,017	151,469	10,124	394	64,777	611,781
1838.....	400,877	182,142	8,478	298	48,677	640,481
1839.....	377,720	163,785	8,565	499	51,559	602,128
1840.....	321,709	302,356	8,665	104	16,178	669,012
1841.....	449,095	272,240	17,891	155	36,953	774,334
1842.....	321,480	293,177	16,015	185	35,769	666,626
1843.....	416,173	346,140	29,493	201	44,854	836,861
1844.....	545,202	383,363	39,957	246	62,627	1,031,395
1845.....	607,930	447,627	49,812	253	99,321	1,204,943
1846.....	603,010	628,454	46,076	1,797	82,892	1,362,319
1847.....	666,113	897,717	51,532	4,831	124,090	1,744,283
1848.....	603,272	685,996	44,867	6,343	107,527	1,447,905
1849.....	665,547	769,600	44,288	5,873	94,638	1,579,949
1850.....	947,768	926,048	39,669	7,105	113,273	2,033,863
1851.....	913,268	891,420	52,302	4,580	115,581	1,977,151
1852.....	1,064,677	989,268	47,512	10,605	122,760	2,234,822
1853.....	1,340,261	932,189	52,817	12,633	167,897	2,505,797
1854.....	1,103,018	846,447	40,082	14,632	219,564	2,233,743
1855.....	877,805	782,604	44,844	15,559	174,781	1,895,593
1856.....	858,771	1,023,417	50,454	14,073	176,754	2,123,469
1857.....	798,986	561,894	55,611	16,987	183,709	1,617,187

1858.....	817,613	299,789	74,981	15,233	147,526	1,985,142
1859.....	1,123,607	610,317	63,079	15,804	308,865	2,121,672
1860.....	1,137,873	1,373,393	66,696	11,235	265,407	2,824,877
1861.....	690,586	1,934,247	43,074	8,405	303,832	2,980,144
1862.....	968,062	2,152,159	45,502	5,470	231,516	3,402,709
1863.....	1,049,559	1,898,253	56,268	5,123	265,524	3,274,727
1864.....	1,106,148	1,320,562	79,480	3,469	295,598	2,805,257
1865.....	1,051,616	1,379,831	58,211	4,302	236,721	2,730,181
1866.....	1,329,884	1,542,035	60,180	6,372	367,136	3,305,607
1867.....	1,359,287	1,143,712	77,250	5,196	444,250	2,029,695
1868.....	1,459,353	1,229,554	89,814	5,058	453,370	3,237,149
1869.....	1,453,419	1,087,105	84,623	4,122	465,873	3,096,142
1870.....	1,465,517	1,049,586	91,166	12,118	587,915	3,156,302
1871.....	1,347,979	1,571,754	94,911	7,603	473,554	3,495,801
1872.....	1,467,865	1,490,248	80,936	7,672	601,223	3,647,994
1873.....	1,308,471	1,421,469	46,421	12,091	588,197	3,376,649
1874.....	1,192,681	1,470,872	49,426	12,905	497,228	3,223,112
1875.....	813,275	1,175,495	70,209	8,341	541,457	2,608,777
1876.....	890,725	906,483	44,268	4,364	580,342	2,426,182
1877.....	978,366	1,362,700	53,545	5,341	586,860	2,986,812
1878.....	1,120,666	1,833,266	56,108	7,367	619,694	3,637,101
1879.....	1,043,970	1,710,539	46,928	15,299	469,440	3,286,176
1880.....	1,202,207	2,090,283	39,397	30,264	705,251	4,067,402
1881.....	1,367,938	1,165,347	53,013	15,466	464,085	3,068,359
1882.....	1,397,816	1,024,318	61,876	24,154	559,988	3,068,152
1883.....	1,403,174	1,234,463	47,910	27,798	449,152	3,162,497
1884.....	1,097,450	1,054,041	56,899	45,538	377,259	2,631,190
1885.....	1,284,213	949,870	61,912	48,185	371,039	2,715,219
1886.....	1,202,190	1,400,301	50,704	65,988	495,708	3,215,177

Total tons of each class of articles which came to the Hudson river from Erie and Champlain canals, etc.—
(Concluded)

YEAR	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total tons
1887.....	1,206,279	1,412,166	52,566	21,710	466,202	3,158,923
1888.....	1,074,279	972,746	73,027	20,364	444,245	2,584,661
1889.....	1,065,747	976,660	75,250	16,428	489,751	2,623,836
1890.....	1,086,408	901,407	65,098	524,179	447,673	3,024,765
1891.....	817,228	980,612	51,524	53,924	383,549	2,286,855
1892.....	997,436	865,958	71,380	53,946	347,799	2,366,519
1893.....	784,052	1,348,103	37,972	46,526	313,192	2,565,845
1894.....	676,155	1,189,935	58,646	103,430	228,729	2,256,895
1895.....	649,605	442,595	96,356	40,306	374,883	1,603,745
1896.....	603,545	963,253	84,605	35,107	386,868	2,073,378
1897.....	634,618	633,753	108,871	32,830	486,146	1,878,218
1898.....	527,830	552,054	94,465	27,239	342,985	1,544,573
1899.....	584,668	465,266	114,659	17,771	482,853	1,665,217
1900.....	444,719	369,984	112,960	15,193	397,775	1,340,631
1901.....	382,822	429,356	75,803	11,257	355,165	1,254,403
1902.....	336,242	407,281	88,804	9,701	361,056	1,203,084
1903.....	296,425	417,418	111,132	7,617	325,947	1,158,539
1904.....	253,525	292,756	119,837	4,250	268,323	938,691
1905.....	328,517	302,173	116,057	6,446	317,150	1,070,343
1906.....	320,177	374,422	108,880	6,553	261,040	1,071,072
1907.....	232,625	329,707	65,680	5,357	236,352	869,621

1908.....	155,507	255,925	80,984	4,880	358,624	855,920
1909.....	197,667	269,031	113,850	10,500	202,959	794,007
1910.....	200,807	301,646	103,448	9,216	146,143	761,260
1911.....	191,649	227,168	99,864	4,107	135,468	658,256
1912.....	222,168	111,056	89,069	4,933	91,390	518,616
1913.....	166,805	132,782	64,709	7,578	127,485	499,359
1914.....	111,555	122,164	67,490	4,325	80,162	385,696
1915.....	139,380	82,895	90,599	9,216	81,470	403,560
1916.....	162,373	48,025	60,482	3,400	123,227	397,507

334 REPORT OF SUPERINTENDENT OF PUBLIC WORKS

The tonnage of the canals for the season of 1916 was composed of the following described class of articles:

	Tons.
Product of the forest.....	350,047
Agriculture	142,315
Manufactures	65,949
Merchandise	101,543
Other articles	965,196
	<hr/>
Total tons	1,625,050
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Of this amount:

	Tons.
Erie canal carried.....	917,689
Champlain canal carried	506,528
Black River canal carried.....	20,464
Cayuga and Seneca canal carried.....	44,421
Oswego canal carried.....	135,948
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Total tons	1,625,050
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EXPORTS OF FLOUR, WHEAT AND CORN FROM NEW YORK, BALTIMORE, PHILADELPHIA, BOSTON, NEW ORLEANS AND MONTREAL
and the percentage of the exports from each port

	Flour, barrels	Wheat, bushels.	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1880. 4,215,415	1880. 61,909,929	1880. 49,875,430	56.2	49.3	43.9
Boston	1,105,473	3,513,917	11,454,256	14.7	02.8	10.0
Philadelphia	288,656	12,342,492	18,172,396	03.8	09.9	16.0
Baltimore	525,985	33,678,376	15,244,895	07.0	26.8	13.4
Montreal	729,007	9,084,266	7,622,161	09.9	07.1	06.8
New Orleans	626,418	5,169,497	11,177,045	08.4	04.1	09.9
Total	7,500,950	125,698,377	113,546,183			
During the year 1880 the canals carried through freight going east.....	17,166	29,285,366	39,154,785	00.2	23.2	34.4
New York	1881. 4,507,052	1881. 41,788,708	1881. 31,614,480	59.9	48.2	42.7
Boston	1,109,583	3,081,232	8,038,627	14.8	03.6	10.8
Philadelphia	190,842	8,860,522	6,799,457	02.5	10.2	09.2
Baltimore	437,701	19,682,935	12,650,303	05.8	22.7	17.2

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
Montreal	1881. 632,821	1881. 6,554,622	1881. 3,359,084	08.4	07.6	04.5
New Orleans	642,460	6,707,982	11,508,685	08.6	07.7	15.6
Total	7,520,459	86,676,001	73,970,636			
During the year 1881 the canals carried through freight going east .....	.....	13,146,166	15,156,571	.....	14.0	20.3
New York	1882. 4,619,499	1882. 37,020,103	1882. 9,012,373	55.5	50.8	50.7
Boston	1,468,146	2,843,058	2,100,503	17.6	04.0	11.8
Philadelphia	246,147	5,759,947	839,024	02.9	07.9	04.8
Baltimore	490,734	17,465,976	1,126,055	05.9	23.8	06.4
Montreal	775,862	6,913,290	672,850	09.3	09.5	03.7
New Orleans	729,749	2,890,698	4,024,325	08.8	04.0	22.6
Total	8,330,137	72,893,072	17,775,130			
During the year 1882 the canals carried through freight going east .....	.....	18,901,666	7,270,607	.....	25.9	4.0

	1883.	1883.	1883.				
New York	4,330,146	20,049,200	22,222,754	56.3	43.6	44.5	
Boston	1,766,172	694,384	4,634,509	22.9	01.5	09.3	
Philadelphia	362,877	4,372,777	5,435,642	04.7	09.5	10.9	
Baltimore	441,477	15,245,868	10,012,247	05.7	33.1	20.1	
Montreal	776,242	5,008,167	4,530,731	10.1	10.1	09.1	
New Orleans	22,061	651,430	3,061,224	00.3	01.4	06.1	
Total.....	7,698,975	46,021,826	49,897,107				
During the year 1883 the canals carried through freight going east.....	.....	16,466,633	16,799,321	.....	35.7	33.6	
New York	1884.	1884.	1884.				
Boston	3,907,021	28,687,362	11,862,158	51.6	49.4	38.5	
Philadelphia	2,173,842	1,692,081	4,247,071	28.7	02.9	13.8	
Baltimore	203,460	5,775,658	1,610,392	02.6	09.9	05.2	
Montreal	444,249	16,524,524	5,651,605	05.9	28.4	18.3	
New Orleans	844,019	3,967,457	3,316,053	11.2	06.9	10.8	
Total.....	Not reported	1,405,219	4,089,507	.....	02.5	13.4	
During the year 1884 the canals carried through freight going east.....	7,572,591	58,052,301	30,776,786				
	213	24,322,200	5,638,357	.....		

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1885. 3,763,029	1885. 16,286,800	1885. 26,259,528	45.7	54.9	43.8
Boston	1,972,326	1,062,293	3,647,244	23.9	03.5	06.1
Philadelphia	695,287	3,369,915	6,028,564	08.4	11.1	10.1
Baltimore	1,093,098	4,575,262	13,752,196	13.3	15.1	22.9
New Orleans	25,158	96,930	7,825,641	00.3	00.3	13.1
Montreal	679,426	4,221,283	2,378,827	08.4	15.4	04.0
Total	8,228,319	29,612,483	59,891,800	100.0	100.0	100.0
During the season of 1885 the canals car- ried through freight going east	296	16,379,100	10,883,500	.....	55.3	.....
New York	1890. 3,417,399	1890. 12,549,946	1890. 24,550,165	.....	.....	.....
Boston	1,289,197	497,889	4,590,085	.....	.....	.....
Philadelphia	844,480	639,274	16,844,797	.....	.....	.....
Baltimore	2,624,282	4,817,614	18,854,951	.....	.....	.....
Montreal	824,952	2,243,666	4,970,236	.....	.....	.....
Total	9,000,210	20,808,389	69,730,234	.....	.....	.....

New York	1891.	1891.	1891.		
Boston	3,978,076	46,514,096	12,918,911	.....	.....
Philadelphia	1,560,673	2,196,782	3,946,411	.....	.....
Baltimore	1,156,342	6,876,608	2,782,678	.....	.....
Montreal	2,703,715	16,073,292	4,096,234	.....	.....
New Orleans	795,452	6,230,224	2,252,662	.....	.....
	52,015	10,336,496	1,912,173	.....	.....
Total	10,246,273	88,227,498	27,810,069	.....	.....
New York	1892.	1892.	1892.		
Boston	6,034,260	45,259,966	18,293,353	.....	.....
Philadelphia	2,090,720	6,375,123	2,811,277	.....	.....
Baltimore	1,843,647	9,994,024	19,454,590	.....	.....
Montreal	3,661,643	16,661,559	18,995,907	.....	.....
New Orleans	601,243	8,379,562	1,763,854	.....	.....
	227,432	14,207,443	7,380,678	.....	.....
Total	14,458,925	100,877,677	68,699,659	.....	.....
New York	1893.	1893.	1893.		
Boston	6,032,903	38,047,932	12,802,039	.....	.....
Philadelphia	1,855,471	3,934,125	5,505,966	.....	.....
Baltimore	1,376,434	5,657,398	3,985,406	.....	.....
Montreal, to November 1, only	3,331,374	13,048,702	7,486,403	.....	.....
	414,522	6,504,176	9,047,524	.....	.....
Total	13,010,704	67,192,333	38,827,338	.....	.....

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
	1894.	1894.	1894.			
New York	5,814,657	21,612,790	10,329,787	.....	.....	.....
Boston	1,887,272	3,519,250	3,808,243	.....	.....	.....
Philadelphia	1,106,656	3,792,700	2,408,546	.....	.....	.....
Baltimore	2,725,321	7,875,548	7,064,799	.....	.....	.....
Montreal	654,192	5,502,128	2,104,912	.....	.....	.....
Total	12,188,098	42,302,416	25,716,287			
	1895.	1895.	1895.			
New York	4,009,157	18,348,193	17,891,140	.....	.....	.....
Boston	1,144,006	4,224,773	5,117,436	.....	.....	.....
Philadelphia	848,220	1,521,226	2,624,404	.....	.....	.....
Baltimore	2,315,196	3,880,536	7,252,590	.....	.....	.....
Montreal	1,341,752	3,827,201	2,462,306	.....	.....	.....
Total	9,958,331	31,801,929	35,347,876			

New York	1896.	1896.	1896.			
Boston	4,817,439	18,476,263	19,160,190			
Philadelphia	1,457,526	9,838,955	5,893,209			
Baltimore	654,128	4,863,886	829,376			
Montreal	3,065,845	6,589,856	26,382,182			
	772,126	7,027,058	6,778,896			
Total	10,767,064	46,796,018	58,893,853			
New York	1897.	1897.	1897.			
Boston	4,699,767	25,085,896	33,206,509			
Philadelphia	1,208,731	9,592,108	9,424,644			
Baltimore	815,181	4,801,606	25,140,487			
Montreal	2,325,803	15,304,039	43,048,008			
	585,813	9,899,308	9,210,222			
Total	9,635,295	64,682,957	120,029,870			
New York	1898.	1898.	1898.			
Boston	4,738,214	49,909,158	39,632,273			
Philadelphia	1,579,687	12,288,159	11,542,828			
Baltimore	1,614,423	5,660,284	29,851,346			
Montreal	2,813,166	18,542,034	45,096,477			
	857,558	8,989,669	19,214,299			
Total	11,603,051	95,389,295	145,337,223			

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED.		
				Flour	Wheat	Corn
New York	1899. 4,741,035	1899. 26,830,386	1899. 40,429,477	.....	.....	.....
Boston	1,528,257	11,567,847	17,337,608	.....	.....	.....
Philadelphia	2,101,435	4,013,927	29,458,334	.....	.....	.....
Baltimore	3,367,485	9,549,270	46,786,127	.....	.....	.....
Montreal .....	.....	.....	.....	.....	.....	.....
Total	11,738,212	51,961,430	134,011,546	.....	.....	.....
New York	1900. 4,487,306	1900. 18,259,428	1900. 43,532,024	37.24	31.70	26.22
Boston	1,606,175	11,028,357	14,072,326	13.33	19.15	8.47
Philadelphia	2,174,567	5,310,213	33,345,171	18.05	9.22	20.08
Baltimore	3,003,787	4,529,811	40,535,023	24.93	7.87	24.41
New Orleans	374,026	8,059,677	23,403,453	3.10	13.99	14.09
Montreal	403,385	10,408,501	11,168,489	3.35	18.07	6.73
Total	12,049,246	57,595,987	166,056,486	100	100	100

New York	1901.	1901.	1901.	1901.	1901.	1901.	1901.	1901.
Boston	4,092,711	27,140,338	23,831,380	33.10	23.76	26.03		
Philadelphia	1,496,163	17,910,887	10,331,712	12.10	15.67	11.28		
Baltimore	2,237,527	11,230,755	15,793,304	19.10	9.85	17.25		
New Orleans	3,324,953	19,962,737	24,711,790	26.90	17.47	26.99		
Montreal	688,222	24,410,979	12,832,139	5.56	21.35	14.02		
	524,494	13,594,686	4,059,790	4.24	11.90	4.43		
Total	12,364,070	114,250,432	91,560,115	100	100	100		
New York	1902.	1902.	1902.	1902.	1902.	1902.	1902.	1902.
Boston	4,149,129	19,955,526	3,052,715	34.47	25.17	22.66		
Philadelphia	901,325	8,545,795	804,038	7.50	10.66	5.97		
Baltimore	2,521,791	11,230,755	15,793,304	18.10	9.85	17.25		
Montreal	3,074,335	9,470,012	4,501,555	25.54	11.94	33.40		
New Orleans	777,810	16,951,132	237,328	6.46	21.38	1.77		
	612,290	15,643,745	2,454,128	5.08	19.73	18.22		
Total	12,036,680	79,291,667	13,473,201	100	100	100		
New York	1903.	1903.	1903.	1903.	1903.	1903.	1903.	1903.
Boston	4,281,084	9,435,934	22,068,881	31.43	21	28.31		
Philadelphia	767,044	2,867,994	6,627,107	5.63	6.38	8.50		
Baltimore	2,664,177	1,600,790	9,994,838	19.56	3.57	12.82		
Montreal	3,489,618	3,160,614	19,113,566	25.62	7.04	24.52		
New Orleans	1,045,631	15,871,969	6,811,590	7.67	35.33	8.75		
	1,374,344	11,989,273	13,332,213	10.09	26.68	17.10		
Total	13,621,898	44,926,574	77,943,185	100	100	100		

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1904. 2,672,766	1904. 425,874	1904. 9,433,283	36.69	4.20	25.53
Boston	610,103	156,164	3,693,404	8.38	1.54	10.00
Philadelphia	1,256,151	8,000	6,169,968	17.24	0.08	16.69
Baltimore	1,281,266	140,262	7,716,237	17.59	1.39	20.84
Montreal	840,005	7,507,266	3,721,583	11.53	74.12	10.07
New Orleans	624,337	1,891,064	6,233,417	8.57	18.67	16.87
Total	7,284,628	10,128,630	36,957,892	100	100	100
New York	1905. 2,550,938	1905. 3,666,201	1905. 27,283,344	38.43	22.63	31.20
Boston	491,418	119,677	10,714,804	7.40	0.76	12.25
Philadelphia	1,264,227	640,448	7,647,880	19.04	3.95	8.75
Baltimore	1,226,033	1,304,456	15,415,604	18.47	8.05	17.63
Montreal	538,207	9,916,687	5,883,842	8.11	61.22	6.73
New Orleans	567,398	549,356	20,498,474	8.55	3.39	23.44
Total	6,638,321	16,196,825	87,443,948	100	100	100

	1906.	1906.	1906.	1906.	1906.	1906.	1906.	1906.
New York	3,038,838	14,913,686	20,779,730	33.64	32.67	25.74		
Boston	735,319	1,983,993	4,174,402	8.13	4.34	5.18		
Philadelphia	2,011,441	4,749,586	9,408,537	22.27	10.40	11.66		
Baltimore	1,547,891	4,138,389	24,611,513	17.13	9.06	30.49		
New Orleans	996,825	5,583,993	17,294,135	11.04	12.23	21.43		
Montreal	703,211	14,289,551	4,436,283	7.79	31.30	5.50		
Total	9,033,525	45,659,198	80,706,600	100	100	100		
New York	3,045,125	22,769,338	21,253,050	32.09	31.39	32.72		
Boston	862,004	4,360,382	5,303,997	9.09	6.02	8.17		
Philadelphia	2,421,406	11,295,013	6,855,029	25.52	15.58	10.55		
Baltimore	1,823,407	8,057,570	19,829,427	19.21	11.11	30.52		
Montreal	861,936	20,949,496	4,830,251	9.08	28.88	7.44		
New Orleans	475,655	5,089,669	6,884,482	5.01	7.02	10.60		
Total	9,489,533	72,521,468	64,956,236	100	100	100		
New York	3,410,944	20,578,026	4,686,576	37.35	27.46	20.56		
Boston	726,632	2,533,460	1,022,338	7.95	3.40	4.46		
Philadelphia	2,299,149	11,731,982	1,626,381	25.18	15.66	7.15		
Baltimore	1,347,098	9,168,368	10,606,954	14.75	12.24	46.53		
Montreal	746,073	27,405,034	268,433	8.17	36.59	1.18		
New Orleans	602,838	3,477,388	4,586,461	6.60	4.65	20.12		
Total	9,132,734	74,894,258	22,797,143	100	100	100		

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1909. 2,991,063	1909. 12,587,537	1909. 4,149,506	36.38	25.97	18.00
Boston	461,332	870,339	2,029,923	5.61	1.80	8.80
Philadelphia	1,708,721	5,245,290	3,473,940	20.80	10.82	15.05
Baltimore	906,169	2,991,527	6,772,959	11.02	6.18	29.35
Montreal	1,602,904	25,004,491	424,183	19.49	51.58	1.85
New Orleans	550,858	1,773,641	6,225,837	6.70	3.65	26.95
Total	8,221,047	48,472,825	23,076,348	100	100	100
New York	1910. 2,963,869	1910. 2,449,860	1910. 7,242,901	44.06	8.45	25.42
Boston	380,794	721,590	2,719,018	5.66	2.49	9.55
Philadelphia	995,687	2,758,039	804,305	14.80	9.51	2.82
Baltimore	738,974	2,768,320	7,767,084	10.99	9.53	27.26
Montreal	1,074,574	20,089,558	2,751,562	15.97	69.27	9.65
New Orleans	572,801	213,687	7,205,151	8.52	0.75	25.30
Total	6,726,699	29,001,054	28,490,021	100	100	100

New York	1911. 3,587,628	1911. 7,343,573	1911. 12,634,740	44.06	20.55	26.92
Boston	389,252	1,432,599	6,306,561	4.78	4.01	13.43
Philadelphia	994,591	3,283,341	5,115,233	12.21	9.13	10.90
Baltimore	982,354	5,382,748	11,371,720	12.07	15.06	24.23
Montreal	1,509,583	17,718,723	5,720,427	18.54	49.55	12.21
New Orleans	679,156	602,417	5,793,673	8.34	1.70	12.31
Total	8,142,564	35,763,401	46,942,354	100	100	100
New York	1912. 3,511,743	1912. 16,720,248	1912. 4,971,768	47.72	26.00	24.05
Boston	81,345	734,298	1,740,355	1.11	1.14	8.42
Philadelphia	843,169	5,106,567	739,610	11.46	7.93	3.58
Baltimore	739,942	3,187,788	9,773,768	10.06	4.96	47.30
Montreal	1,556,173	30,652,475	.....	21.14	47.65	.....
New Orleans	626,595	7,926,974	3,440,620	8.51	12.32	16.65
Total	7,358,967	64,328,350	20,666,121	100	100	100
New York	1913. 4,023,661	1913. 25,602,631	1913. 5,930,564	44.00	25.64	17.36
Boston	238,229	5,678,052	4,083,959	2.61	5.69	11.93
Philadelphia	1,172,232	7,164,386	1,708,772	12.82	7.18	5.02
Baltimore	878,585	13,350,162	18,275,534	9.61	13.36	53.51
Montreal	1,760,653	33,706,089	50,820	19.25	33.75	0.16
New Orleans	1,071,074	14,355,235	4,103,630	11.71	14.38	12.02
Total	9,144,434	99,856,555	34,153,279	100	100	100

Exports of flour, wheat and corn from New York, etc. — (Concluded)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1914. 4,852,039	1914. 28,799,431	1914. 3,548,100	42.27	18.95	40.53
Boston	289,945	3,858,122	145,467	2.53	2.54	1.66
Philadelphia	1,060,613	11,194,626	309,332	9.25	7.36	3.53
Baltimore	916,243	15,058,021	2,998,890	7.95	9.95	34.25
Montreal	2,762,139	61,484,474	.....	24.07	40.45	.....
New Orleans	1,598,537	31,547,132	1,753,434	13.93	20.75	20.03
Total	11,479,516	151,941,806	8,755,223	100	100	100
New York	1915. 7,120,089	1915. 50,771,732	1915. 9,369,568	55.92	30.84	27.86
Boston	484,154	3,920,062	673,962	3.80	2.39	2.04
Philadelphia	916,668	24,377,693	1,878,640	7.20	14.80	5.59
Baltimore	861,083	21,563,399	17,477,008	6.76	13.09	51.98
Montreal	1,136,828	34,025,083	166,734	8.93	20.67	0.47
New Orleans	2,213,846	29,970,584	4,055,437	17.39	18.21	12.06
Total	12,732,668	164,628,553	33,621,349	100	100	100

	1916.	1916.	1916.	33.55	25.90	15.41
New York	4,543,731	39,755,160	6,262,866	33.55	25.90	15.41
Boston	243,370	2,826,697	2,284,117	1.78	1.84	5.62
Philadelphia	1,087,323	23,903,855	2,979,023	8.02	15.56	7.33
Baltimore	2,227,601	29,710,675	19,128,727	16.43	19.35	47.08
Montreal	3,338,040	34,602,005	4,879,654	24.63	22.53	12.01
New Orleans	2,114,068	22,785,121	5,100,415	15.59	14.82	12.55
Total	13,554,133	153,583,513	40,634,802	100	100	100

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1885. 3,763,029	1885. 16,286,800	1885. 26,259,528	45.7	54.9	43.8
Boston	1,972,326	1,062,293	3,647,244	23.9	03.5	06.1
Philadelphia	695,287	3,369,915	6,028,564	08.4	11.1	10.1
Baltimore	1,093,098	4,575,262	13,752,196	13.3	15.1	22.9
New Orleans	25,158	96,930	7,825,641	00.3	00.3	13.1
Montreal	679,426	4,221,283	2,378,827	08.4	15.4	04.0
Total	8,228,319	29,612,483	59,891,800	100.0	100.0	100.0
During the season of 1885 the canals carried through freight going east	296	16,379,100	10,883,500	.....	55.3	.....
New York	1890. 3,417,399	1890. 12,549,946	1890. 24,550,165	.....	.....	.....
Boston	1,289,197	497,889	4,590,085	.....	.....	.....
Philadelphia	844,480	699,274	16,344,797	.....	.....	.....
Baltimore	2,624,282	4,817,614	18,854,951	.....	.....	.....
Montreal	824,952	2,243,666	4,970,236	.....	.....	.....
Total	9,000,210	20,808,389	69,730,234	.....	.....	.....

	1891.	1891.	1891.			
New York	3,978,076	46,514,096	12,918,911	.....	.....	.....
Boston	1,560,673	2,196,782	3,946,411	.....	.....	.....
Philadelphia	1,156,342	6,876,608	2,782,678	.....	.....	.....
Baltimore	2,703,715	16,073,292	4,096,234	.....	.....	.....
Montreal	795,452	6,230,224	2,252,662	.....	.....	.....
New Orleans	52,015	10,336,496	1,912,173	.....	.....	.....
Total	10,246,273	88,227,498	27,810,069			
	1892.	1892.	1892.			
New York	6,034,260	45,259,966	18,293,353	.....	.....	.....
Boston	2,090,720	6,375,123	2,811,277	.....	.....	.....
Philadelphia	1,843,647	9,994,024	19,454,590	.....	.....	.....
Baltimore	3,661,643	16,661,559	18,995,907	.....	.....	.....
Montreal	601,243	8,379,562	1,763,854	.....	.....	.....
New Orleans	227,432	14,207,443	7,380,678	.....	.....	.....
Total	14,458,925	100,877,677	68,699,659			
	1893.	1893.	1893.			
New York	6,032,903	38,047,932	12,802,039	.....	.....	.....
Boston	1,855,471	3,934,125	5,505,966	.....	.....	.....
Philadelphia	1,376,434	5,657,398	3,985,406	.....	.....	.....
Baltimore	3,331,374	13,048,702	7,486,403	.....	.....	.....
Montreal, to November 1, only	414,522	6,504,176	9,047,524	.....	.....	.....
Total	13,010,704	67,192,333	38,827,338	.....	.....	.....

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
	1894.	1894.	1894.			
New York	5,814,657	21,612,790	10,329,787	.....	.....	.....
Boston	1,887,272	3,519,250	3,808,243	.....	.....	.....
Philadelphia	1,106,656	3,792,700	2,408,546	.....	.....	.....
Baltimore	2,725,321	7,875,548	7,064,799	.....	.....	.....
Montreal	654,192	5,502,128	2,104,912	.....	.....	.....
Total	12,188,098	42,302,416	25,716,287			
	1895.	1895.	1895.			
New York	4,009,157	18,348,193	17,391,140	.....	.....	.....
Boston	1,144,006	4,224,773	5,117,436	.....	.....	.....
Philadelphia	848,220	1,521,226	2,624,404	.....	.....	.....
Baltimore	2,315,196	3,880,536	7,252,590	.....	.....	.....
Montreal	1,341,752	3,827,201	2,462,306	.....	.....	.....
Total	9,958,331	31,801,929	35,347,876			

New York	1896.	1896.	1896.			
Boston	4,817,439	18,476,263	19,160,190			
Philadelphia	1,457,526	9,838,955	5,893,209			
Baltimore	654,128	4,863,886	829,376			
Montreal	3,065,845	6,589,856	26,382,182			
	772,126	7,027,058	6,778,896			
Total	10,767,064	46,796,018	58,893,853			
New York	1897.	1897.	1897.			
Boston	4,699,767	25,085,896	33,206,509			
Philadelphia	1,208,731	9,592,108	9,424,644			
Baltimore	815,181	4,801,606	25,140,487			
Montreal	2,325,803	15,304,039	43,048,008			
	585,813	9,899,308	9,210,222			
Total	9,635,295	64,682,957	120,029,870			
New York	1898.	1898.	1898.			
Boston	4,738,214	49,909,158	39,632,273			
Philadelphia	1,579,687	12,288,159	11,542,828			
Baltimore	1,614,423	5,660,284	29,851,346			
Montreal	2,813,166	18,542,034	45,096,477			
	857,558	8,989,669	19,214,299			
Total	11,603,051	95,389,295	145,337,223			

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED.		
				Flour	Wheat	Corn
New York	1899. 4,741,035	1899. 26,830,386	1899. 40,429,477	.....	.....	.....
Boston	1,528,257	11,567,847	17,337,608	.....	.....	.....
Philadelphia	2,101,435	4,013,927	29,458,334	.....	.....	.....
Baltimore	3,367,485	9,549,270	46,786,127	.....	.....	.....
Montreal	.....	.....	.....	.....	.....	.....
Total	11,738,212	51,961,430	134,011,546	.....	.....	.....
New York	1900. 4,487,306	1900. 18,259,428	1900. 43,532,024	37.24	31.70	26.22
Boston	1,606,175	11,028,357	14,072,326	13.33	19.15	8.47
Philadelphia	2,174,567	5,310,213	33,345,171	18.05	9.22	20.08
Baltimore	3,003,787	4,529,811	40,535,023	24.93	7.87	24.41
New Orleans	374,026	8,059,677	23,403,453	3.10	13.99	14.09
Montreal	403,385	10,408,501	11,168,489	3.35	18.07	6.73
Total	12,049,246	57,595,987	166,056,486	100	100	100

New York	1901.	1901.	1901.	1901.	1901.	1901.	1901.	1901.	1901.
Boston	4,092,711	27,140,338	23,831,380	33.10	23.76	26.03			
Philadelphia	1,496,163	17,910,887	10,331,712	12.10	15.67	11.28			
Baltimore	2,237,527	11,230,755	15,793,304	19.10	9.85	17.25			
New Orleans	3,324,953	19,962,737	24,711,790	26.90	17.47	26.99			
Montreal	688,222	24,410,979	12,832,139	5.56	21.35	14.02			
	524,494	13,594,686	4,059,790	4.24	11.90	4.43			
Total	12,364,070	114,250,432	91,560,115	100	100	100			
New York	1902.	1902.	1902.	1902.	1902.	1902.	1902.	1902.	1902.
Boston	4,149,129	19,955,526	3,052,715	34.47	25.17	22.66			
Philadelphia	901,325	8,545,795	804,038	7.50	10.66	5.97			
Baltimore	2,521,791	11,230,755	15,793,304	18.10	9.85	17.25			
Montreal	3,074,335	9,470,012	4,501,555	25.54	11.94	33.40			
New Orleans	777,810	16,951,132	237,328	6.46	21.38	1.77			
	612,290	15,643,745	2,454,128	5.08	19.73	18.22			
Total	12,036,680	79,291,667	13,473,201	100	100	100			
New York	1903.	1903.	1903.	1903.	1903.	1903.	1903.	1903.	1903.
Boston	4,281,084	9,435,934	22,068,881	31.43	21	28.31			
Philadelphia	767,044	2,867,994	6,627,107	5.63	6.38	8.50			
Baltimore	2,664,177	1,600,790	9,994,838	19.56	3.57	12.82			
Montreal	3,489,618	3,160,614	19,113,566	25.62	7.04	24.52			
New Orleans	1,045,631	15,871,969	6,811,590	7.67	35.33	8.75			
	1,374,344	11,989,273	13,332,213	10.09	26.68	17.10			
Total	13,621,898	44,926,574	77,943,185	100	100	100			

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1904. 2,672,766	1904. 425,874	1904. 9,433,283	36.69	4.20	25.53
Boston	610,103	156,164	3,693,404	8.38	1.54	10.00
Philadelphia	1,256,151	8,000	6,169,968	17.24	0.08	16.69
Baltimore	1,281,266	140,262	7,716,237	17.59	1.39	20.84
Montreal	840,005	7,507,266	3,721,583	11.53	74.12	10.07
New Orleans	624,337	1,891,064	6,233,417	8.57	18.67	16.87
Total	7,284,628	10,128,630	36,957,892	100	100	100
New York	1905. 2,550,938	1905. 3,666,201	1905. 27,283,344	38.43	22.63	31.20
Boston	491,418	119,677	10,714,804	7.40	0.76	12.25
Philadelphia	1,264,227	640,448	7,647,880	19.04	3.95	8.75
Baltimore	1,226,033	1,304,456	16,415,604	18.47	8.05	17.63
Montreal	538,307	9,916,687	5,883,842	8.11	61.22	6.73
New Orleans	567,398	549,356	20,498,474	8.55	3.39	23.44
Total	6,638,321	16,196,825	87,443,948	100	100	100

	1906.	1906.	1906.						
New York	3,038,838	14,913,686	20,779,730	33.64	32.67	25.74			
Boston	735,319	1,983,993	4,174,402	8.13	4.34	5.18			
Philadelphia	2,011,441	4,749,586	9,408,537	22.27	10.40	11.66			
Baltimore	1,547,891	4,138,389	24,611,513	17.13	9.06	30.49			
New Orleans	996,825	5,583,993	17,294,135	11.04	12.23	21.43			
Montreal	703,211	14,289,551	4,438,283	7.79	31.30	5.50			
Total	9,033,525	45,659,198	80,706,600	100	100	100			
New York	3,045,125	22,769,338	21,253,050	32.09	31.39	32.72			
Boston	862,004	4,360,382	5,303,997	9.09	6.02	8.17			
Philadelphia	2,421,406	11,295,013	6,855,029	25.52	15.58	10.55			
Baltimore	1,823,407	8,057,570	19,829,427	19.21	11.11	30.52			
Montreal	861,936	20,949,496	4,830,251	9.08	28.88	7.44			
New Orleans	475,655	5,089,669	6,884,482	5.01	7.02	10.60			
Total	9,489,533	72,521,468	64,956,236	100	100	100			
New York	3,410,944	20,578,026	4,686,576	37.35	27.46	20.56			
Boston	726,632	2,533,460	1,022,338	7.95	3.40	4.46			
Philadelphia	2,299,149	11,731,982	1,626,381	25.18	15.66	7.15			
Baltimore	1,347,098	9,168,368	10,606,954	14.75	12.24	46.53			
Montreal	746,073	27,405,034	268,433	8.17	36.59	1.18			
New Orleans	602,838	3,477,388	4,586,461	6.60	4.65	20.12			
Total	9,132,734	74,894,258	22,797,143	100	100	100			

Exports of flour, wheat and corn from New York, etc. — (Continued)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1909. 2,991,063	1909. 12,587,537	1909. 4,149,506	36.38	25.97	18.00
Boston	461,332	870,339	2,029,923	5.61	1.80	8.80
Philadelphia	1,708,721	5,245,290	3,473,940	20.80	10.82	15.05
Baltimore	906,169	2,991,527	6,772,959	11.02	6.18	29.35
Montreal	1,602,904	25,004,491	424,183	19.49	51.58	1.85
New Orleans	550,858	1,773,641	6,225,837	6.70	3.65	26.95
Total	8,221,047	48,472,825	23,076,348	100	100	100
New York	1910. 2,963,869	1910. 2,449,860	1910. 7,242,901	44.06	8.45	25.42
Boston	380,794	721,590	2,719,018	5.66	2.49	9.55
Philadelphia	995,687	2,758,039	804,305	14.80	9.51	2.82
Baltimore	738,974	2,768,320	7,767,084	10.99	9.53	27.26
Montreal	1,074,574	20,089,558	2,751,562	15.97	69.27	9.65
New Orleans	572,801	213,687	7,205,151	8.52	0.75	25.30
Total	6,726,699	29,001,054	28,490,021	100	100	100

New York	1911. 3,587,628	1911. 7,343,573	1911. 12,634,740	44.06	20.55	26.92
Boston	389,252	1,432,599	6,306,561	4.78	4.01	13.43
Philadelphia	994,591	3,283,341	5,115,233	12.21	9.13	10.90
Baltimore	992,354	5,382,748	11,371,720	12.07	15.06	24.23
Montreal	1,509,583	17,718,723	5,720,427	18.54	49.55	12.21
New Orleans	679,156	602,417	5,793,673	8.34	1.70	12.31
Total	8,142,564	35,763,401	46,942,354	100	100	100
New York	1912. 3,511,743	1912. 16,720,248	1912. 4,971,768	47.72	26.00	24.05
Boston	81,345	734,298	1,740,355	1.11	1.14	8.42
Philadelphia	843,169	5,106,567	739,610	11.46	7.93	3.58
Baltimore	739,942	3,187,788	9,773,768	10.06	4.96	47.30
Montreal	1,556,173	30,652,475	.....	21.14	47.65	.....
New Orleans	626,595	7,926,974	3,440,620	8.51	12.32	16.65
Total	7,358,967	64,328,350	20,666,121	100	100	100
New York	1913. 4,023,661	1913. 25,602,631	1913. 5,930,564	44.00	25.64	17.36
Boston	238,229	5,678,052	4,083,959	2.61	5.69	11.93
Philadelphia	1,172,232	7,164,386	1,708,772	12.82	7.18	5.02
Baltimore	878,585	13,350,162	18,275,534	9.61	13.36	53.51
Montreal	1,760,653	33,706,089	50,820	19.25	33.75	0.16
New Orleans	1,071,074	14,355,235	4,103,630	11.71	14.38	12.02
Total	9,144,434	99,856,555	34,153,279	100	100	100

Exports of flour, wheat and corn from New York, etc. — (Concluded)

	Flour, barrels	Wheat, bushels	Corn, bushels	PERCENTAGE OF TOTAL EXPORTS AT PLACES NAMED		
				Flour	Wheat	Corn
New York	1914. 4,852,039	1914. 28,799,431	1914. 3,548,100	42.27	18.95	40.53
Boston	289,945	3,858,122	145,467	2.53	2.54	1.66
Philadelphia	1,060,613	11,194,626	309,332	9.25	7.36	3.53
Baltimore	916,243	15,058,021	2,998,890	7.95	9.95	34.25
Montreal	2,762,139	61,484,474	.....	24.07	40.45	.....
New Orleans	1,598,537	31,547,132	1,753,434	13.93	20.75	20.03
Total	11,479,516	151,941,806	8,755,223	100	100	100
New York	1915. 7,120,089	1915. 50,771,732	1915. 9,369,568	55.92	30.84	27.86
Boston	484,154	3,920,062	673,962	3.80	2.39	2.04
Philadelphia	916,668	24,377,693	1,878,640	7.20	14.80	5.59
Baltimore	861,083	21,563,399	17,477,008	6.76	13.09	51.98
Montreal	1,136,828	34,025,083	166,734	8.93	20.67	0.47
New Orleans	2,213,846	29,970,584	4,055,437	17.39	18.21	12.06
Total	12,732,668	164,628,553	33,621,349	100	100	100

	1916.	1916.	1916.			
New York	4,543,731	39,755,160	6,262,866	33.55	25.90	15.41
Boston	243,370	2,826,697	2,284,117	1.78	1.84	5.62
Philadelphia	1,087,323	23,903,855	2,979,023	8.02	15.56	7.33
Baltimore	2,227,601	29,710,675	19,128,727	16.43	19.35	47.08
Montreal	3,338,040	34,602,005	4,879,654	24.63	22.53	12.01
New Orleans	2,114,068	22,785,121	5,100,415	15.59	14.82	12.55
Total	13,554,133	153,583,513	40,634,802	100	100	100

STATEMENT of lockages during the season of 1916

DATE	ERIE CANAL			
	Lock No. 1	Lower side cut	Upper side cut, river lock	Lock No. 45
May	19	10	53	143
June	39	57	191	431
July	32	56	124	343
August	35	51	163	362
September	26	44	159	293
October	19	52	79	285
November	65	31	72	253
December .....	.....	.....	.....	.....
Total	235	301	841	2,110

Statement of lockages during the season of 1916 — (Continued)

DATE	ERIE CANAL			
	Lock No. 46	Lock No. 49	Lock No. 50	Lock No. 66
May	165	91	150	121
June	335	406	419	333
July	342	430	450	314
August	348	454	488	362
September	344	466	475	368
October	265	339	465	293
November	230	268	316	266
December .....	.....	.....	.....	.....
Total	2,029	2,454	2,763	2,057

Statement of lockages during the season of 1916 — (Continued)

DATE	ERIE CANAL			
	Locks Nos. 34 and 35	Tonawanda lock	Lock No. 72	Junction lock
May	111	235	141	12
June	339	451	447	39
July	295	1,016	479	16
August	346	847	540	31
September	315	534	532	22
October	249	300	351	32
November	213	195	254	18
December .....	.....	.....	.....	.....
Total	1,868	3,578	2,744	170

Statement of lockages during the season of 1916 — (Continued)

DATE	CHAMPLAIN CANAL			Oswego Canal, Lock No. 1
	Guard lock	Whitehall lock	Barge Canal, Lock No. 7	
May	385	90	88	107
June	616	370	446	236
July	525	663	595	362
August	557	694	609	284
September	556	567	424	254
October	662	463	442	228
November	582	384	362	157
December	45	.....	36	.....
Total	3,928	3,231	3,002	1,628

Statement of lockages during the season of 1916 — (Continued)

DATE	Black River Canal, Lock No. 1	CATUGA AND SENECA CANAL	
		Montezuma lock	Mud lock
May . . . . .	.....	61	.....
June	93	101	.....
July	78	133	.....
August	74	132	.....
September	67	155	120
October	63	118	86
November	35	51	31
December . . . . .	.....	.....	.....
Total	410	751	237

STATEMENT of the tons of property moved on each and all the canals, comprising the tons of total movement

YEAR	Erie	Champlain	Oswego	Cayuga and Seneca	Chemung	Crooked Lake
1837.....	667,151	261,659	161,353	20,274	20,288	24,258
1838.....	744,848	266,553	222,697	23,541	30,256	30,336
1839.....	845,007	263,552	221,300	26,300	36,089	26,823
1840.....	829,960	245,229	219,627	32,486	34,217	24,026
1841.....	906,442	276,418	135,689	34,634	63,042	33,030
1842.....	712,310	230,844	129,498	31,716	54,866	18,660
1843.....	819,216	262,212	240,571	25,998	66,247	31,856
1844.....	945,944	269,546	326,607	31,099	88,231	32,589
1845.....	1,038,700	266,922	340,481	46,464	114,740	39,489
1846.....	1,264,408	280,480	351,511	61,014	124,768	35,556
1847.....	1,661,575	313,124	441,096	58,204	189,165	36,318
1848.....	1,599,965	293,889	490,147	46,252	150,691	34,155
1849.....	1,622,444	321,345	557,637	40,440	135,867	36,317
1850.....	1,635,089	460,219	583,346	42,379	128,263	38,797
1851.....	1,955,265	513,793	676,321	37,084	159,563	29,399
1852.....	2,159,334	531,001	684,191	47,275	187,577	35,757
1853.....	2,198,308	608,354	761,276	58,793	249,980	53,985
1854.....	2,224,008	602,913	611,533	72,995	270,978	25,349
1855.....	2,202,463	537,108	654,399	76,744	223,271	25,850
1856.....	2,107,678	611,610	657,381	131,907	245,621	28,559
1857.....	1,566,624	547,236	605,218	120,435	187,201	16,571
1858.....	1,767,004	608,918	688,960	75,968	205,168	16,318
1859.....	1,753,954	751,046	612,390	80,602	256,323	17,933

Statement of the tons of property moved on each and all the canals, etc.—(Continued)

YEAR	Erie	Champlain	Oswego	Cayuga and Seneca	Chemung	Crooked Lake
1860.....	2,253,533	681,157	1,080,076	98,678	226,051	14,723
1861.....	2,500,782	545,930	852,920	100,992	208,792	12,329
1862.....	3,204,277	647,318	1,063,413	125,659	243,628	19,632
1863.....	2,955,302	878,920	992,173	119,704	307,151	11,230
1864.....	2,535,792	846,790	765,079	185,161	280,834	6,316
1865.....	2,523,490	815,311	825,649	192,312	164,796	9,376
1866.....	2,896,027	1,001,493	990,809	368,223	226,510	12,189
1867.....	2,920,578	1,047,440	940,136	389,704	145,627	6,558
1868.....	3,346,986	1,120,585	958,444	515,295	165,875	4,451
1869.....	2,845,072	1,059,339	934,638	533,516	245,761	7,541
1870.....	3,083,132	1,143,719	917,728	527,728	206,535	15,825
1871.....	3,580,922	1,099,995	941,858	445,186	173,281	12,024
1872.....	3,562,560	1,449,528	832,490	386,977	217,263	7,145
1873.....	3,602,535	1,195,390	655,588	437,382	257,962	12,831
1874.....	3,097,122	1,263,292	665,408	378,825	205,602	9,286
1875.....	2,787,226	1,077,746	486,550	224,492	129,425	.....
1876.....	2,418,422	910,151	370,330	137,264	214,448	.....
1877.....	3,254,367	1,021,782	319,327	247,864	12,026	.....
1878.....	3,608,634	1,040,912	257,254	168,201	8,767	.....
1879.....	3,820,027	1,012,005	333,713	117,027	.....	.....
1880.....	4,608,651	1,200,503	427,863	125,331	.....	.....
1881.....	3,598,721	986,079	394,542	99,617	.....	.....
1882.....	3,694,364	1,097,343	445,295	123,448	.....	.....

1883.	3,587,102	1,366,358	276,350	134,631	.....
1884.	3,389,555	1,118,073	260,541	119,990	.....
1885.	3,208,207	1,139,402	213,070	64,125	.....
1886.	3,808,642	1,119,663	186,484	64,995	.....
1887.	3,840,513	1,229,335	176,177	195,933	.....
1888.	3,321,516	1,198,305	134,078	201,237	.....
1889.	3,673,554	1,187,038	170,078	196,138	.....
1890.	3,303,929	1,520,757	225,936	63,419	.....
1891.	3,097,853	1,101,126	161,426	80,954	.....
1892.	2,978,832	1,021,139	90,886	75,669	.....
1893.	3,235,726	848,965	92,634	38,761	.....
1894.	3,144,144	550,279	*98,843	33,270	.....
1895.	2,356,084	966,335	64,154	49,050	.....
1896.	2,742,438	802,519	57,245	54,739	.....
1897.	2,584,906	797,637	53,537	110,277	.....
1898.	2,338,020	804,076	47,662	100,342	.....
1899.	2,419,084	1,043,315	49,373	113,476	.....
1900.	2,145,876	972,867	31,742	130,126	.....
1901.	2,257,035	885,641	43,210	166,258	.....
1902.	2,105,876	766,615	143,707	155,152	.....
1903.	2,414,018	801,649	184,434	116,918	.....
1904.	1,945,708	796,468	170,342	140,656	.....
1905.	1,999,824	833,550	178,777	123,927	.....
1906.	2,385,491	740,953	172,228	164,874	.....
1907.	2,415,548	678,506	143,277	112,570	.....
1908.	2,177,443	614,762	92,831	81,029	.....
1909.	2,031,307	732,125	121,717	84,957	.....
1910.	2,023,185	684,027	110,079	80,125	.....
1911.	2,031,735	770,668	113,891	98,854	.....

Statement of the tons of property moved on each and all the canals, etc.—(Continued)

YEAR	Erie	Champlain	Oswego	Cayuga and Seneca	Chemung	Crooked Lake
1912.....	1,795,069	590,723	83,580	80,753	.....	.....
1913.....	1,788,453	554,892	61,554	149,874	.....	.....
1914.....	1,361,764	492,014	55,705	128,698	.....	.....
1915.....	1,155,235	503,030	142,312	26,384	.....	.....
1916.....	917,689	506,528	135,948	44,421	.....	.....

Statement of the tons of property moved on each and all the canals, etc.—(Continued)

YEAR	Chenango	Genesee Valley	Black River	Oneida Lake	Baldwinsville	Total
1837.....	8,213	.....	.....	.....	.....	1,171,296
1838.....	14,778	.....	.....	.....	.....	1,333,011
1839.....	16,928	.....	.....	.....	.....	1,435,713
1840.....	16,848	13,653	.....	.....	.....	1,416,046
1841.....	23,365	26,892	.....	22,150	.....	1,521,681
1842.....	17,177	41,860	.....	.....	.....	1,236,931
1843.....	19,026	48,313	.....	26,445	.....	1,513,439
1844.....	31,472	65,077	.....	25,991	.....	1,816,586
1845.....	38,305	73,546	.....	28,808	.....	1,977,565
1846.....	41,112	87,614	.....	22,188	.....	2,268,662
1847.....	44,051	95,632	.....	30,642	.....	2,849,810
1848.....	35,207	98,467	.....	47,451	.....	2,796,230
1849.....	36,557	84,674	.....	59,451	.....	2,794,732
1850.....	41,892	89,804	.....	65,828	.....	3,076,617
1851.....	40,307	100,000	25,320	45,049	.....	3,582,733
1852.....	44,939	122,901	36,597	43,969	.....	3,863,441
1853.....	76,538	157,164	41,924	43,351	.....	4,247,853
1854.....	77,124	158,942	55,325	34,532	31,945	4,165,862
1855.....	89,390	102,321	51,347	27,116	32,608	4,022,617
1856.....	105,502	113,731	68,126	18,485	27,481	4,116,082
1857.....	96,722	114,576	69,135	19,343	.....	3,344,061
1858.....	72,526	118,303	62,353	19,675	.....	3,665,192
1859.....	89,691	124,263	75,946	19,536	.....	3,981,648

Statement of the tons of property moved on each and all the canals, etc.—(Continued)

YEAR	Chenango	Genesee Valley	Black River	Oneida Lake	Baldwinsville	Total
1860.....	83,635	123,602	70,687	18,672	.....	4,650,214
1861.....	91,601	94,329	69,930	30,060	.....	4,707,635
1862.....	79,442	129,974	85,442	.....	.....	5,598,785
1863.....	90,215	112,549	90,448	.....	.....	5,557,692
1864.....	89,021	71,411	72,519	.....	.....	4,852,941
1865.....	68,822	56,581	73,317	.....	.....	4,729,654
1866.....	107,472	86,579	85,908	.....	.....	5,775,220
1867.....	103,064	64,679	70,539	.....	.....	5,688,325
1868.....	112,455	138,364	79,770	.....	.....	6,442,225
1869.....	83,527	69,141	80,550	.....	.....	5,859,080
1870.....	102,820	79,733	96,329	.....	.....	6,173,769
1871.....	39,793	85,269	89,560	.....	.....	6,467,888
1872.....	26,519	96,113	94,776	.....	.....	6,673,370
1873.....	30,317	86,770	86,017	.....	.....	6,364,782
1874.....	33,059	69,393	77,601	.....	.....	5,804,588
1875.....	23,769	64,677	65,993	.....	.....	4,859,858
1876.....	6,227	47,360	67,927	.....	.....	4,172,129
1877.....	.....	37,311	63,286	.....	.....	4,955,963
1878.....	.....	18,569	68,983	.....	.....	5,171,320
1879.....	.....	.....	79,600	.....	.....	5,362,372
1880.....	.....	.....	75,308	.....	.....	6,457,656
1881.....	.....	.....	100,233	.....	.....	5,179,192
1882.....	.....	.....	106,933	.....	.....	5,467,423

1883.....	123,656	.....	5,664,056
1884.....	116,359	.....	5,009,488
1885.....	106,971	.....	4,731,784
1886.....	114,198	.....	5,293,982
1887.....	111,847	.....	5,553,805
1888.....	118,213	.....	4,942,948
1889.....	143,561	.....	5,370,369
1890.....	132,061	.....	5,246,102
1891.....	122,111	.....	4,563,472
1892.....	115,469	.....	4,231,995
1893.....	115,877	.....	4,331,963
1894.....	56,024	.....	3,882,560
1895.....	64,691	.....	3,500,314
1896.....	57,953	.....	3,714,894
1897.....	71,447	.....	3,617,894
1898.....	69,963	.....	3,360,083
1899.....	69,803	.....	3,686,051
1900.....	65,330	.....	3,345,941
1901.....	68,469	.....	3,420,613
1902.....	103,260	.....	3,274,610
1903.....	98,366	.....	3,615,385
1904.....	85,373	.....	3,138,547
1905.....	90,818	.....	3,226,896
1906.....	77,331	.....	3,540,907
1907.....	58,013	.....	3,407,914
1908.....	85,812	.....	3,051,877
1909.....	146,430	.....	3,116,536
1910.....	175,996	.....	3,073,412
1911.....	81,920	.....	3,097,068

Statement of the tons of property moved on each and all the canals, etc.—(Concluded)

YEAR	Chenango	Genesee Valley	Black River	Oneida Lake	Baldwinville	Total
1912.....	55,991	.....	.....	2,606,116
1913.....	47,262	.....	.....	2,602,035
1914.....	42,669	.....	.....	2,080,850
1915.....	31,153	.....	.....	1,858,114
1916.....	20,464	.....	.....	1,625,050

Total value of articles moved on all the canals from 1837 to 1916, both years inclusive

YEAR	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total
1837.....	\$6,146,716	\$16,201,331	\$6,390,486	\$23,935,990	\$3,134,766	\$55,806,288
1838.....	6,338,063	19,390,714	5,915,856	31,594,692	2,507,234	65,764,559
1839.....	7,762,553	17,056,911	5,986,576	39,493,764	3,096,960	73,399,764
1840 (Genesee Valley canal opened.....)	4,609,035	19,644,481	4,719,054	35,636,943	2,694,379	66,303,892
1841.....	11,841,103	21,901,713	5,422,615	50,134,320	2,993,178	92,202,929
1842.....	5,957,219	16,987,843	4,435,489	30,042,153	2,594,104	60,016,608
1843.....	6,653,080	20,588,118	4,925,545	40,651,798	3,458,386	76,276,909
1844.....	7,422,737	23,379,643	6,151,806	49,224,099	4,472,867	90,021,152
1845.....	6,472,237	25,479,488	6,994,932	52,542,336	5,140,866	100,629,859
1846.....	6,422,409	35,820,586	7,015,311	62,004,488	4,349,315	115,612,100
1847.....	7,546,063	55,757,166	8,072,059	74,753,638	5,434,502	151,563,428
1848.....	7,219,350	42,850,086	7,433,957	76,945,463	5,637,301	140,086,157
1849.....	8,671,057	46,408,092	7,183,930	77,094,282	5,374,924	144,732,285
1850.....	15,117,661	46,152,958	7,933,108	81,135,199	6,059,003	156,397,929
1851.....	12,549,754	43,277,458	8,255,575	88,531,320	7,367,694	159,981,801
1852.....	11,526,636	49,437,555	6,294,120	122,624,170	6,721,236	196,603,507
1853.....	14,001,506	57,482,815	8,091,100	118,317,856	9,286,293	207,179,570
1854.....	14,384,864	51,980,864	9,796,420	123,367,863	10,954,380	210,284,312
1855.....	10,545,615	58,222,314	10,467,559	113,572,523	11,582,136	402,390,147
1856.....	10,211,383	51,030,453	10,308,419	135,691,816	11,084,991	218,327,062
1857.....	9,827,410	30,955,369	9,330,067	74,633,905	12,250,267	136,997,018
1858.....	8,983,443	50,142,318	9,352,955	61,136,319	8,873,809	138,568,844

Total value of articles moved on all the canals from 1837 to 1916, etc.—(Continued)

YEAR	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total
1859.....	\$10,798,769	\$34,044,601	\$8,757,059	\$65,072,972	\$13,487,357	\$132,160,758
1860.....	10,654,710	55,838,977	8,113,177	84,252,425	11,989,909	170,849,198
1861.....	6,462,614	37,861,720	6,718,273	49,707,729	9,365,557	130,115,893
1862.....	11,305,954	84,239,870	12,314,651	83,640,903	11,733,453	203,234,331
1863.....	13,421,909	101,090,511	13,044,051	91,417,513	21,072,477	240,046,461
1864.....	22,589,060	116,051,564	22,582,718	80,391,550	32,785,747	274,400,639
1865.....	21,011,122	83,670,467	18,095,266	102,627,877	30,832,372	256,237,104
1866.....	28,754,821	86,610,934	18,389,992	100,169,211	37,038,718	270,963,676
1867.....	28,907,470	81,616,663	16,877,334	108,545,569	42,939,676	278,956,712
1868.....	24,089,591	76,383,656	17,298,574	131,786,764	55,793,344	305,301,920
1869.....	21,960,655	55,528,825	13,595,892	103,464,505	54,761,407	249,281,284
1870.....	22,266,184	40,231,912	10,777,897	94,852,911	54,707,269	231,836,176
1871.....	27,309,303	68,130,282	10,881,540	78,898,185	53,548,381	238,767,691
1872.....	35,599,734	49,541,259	7,659,547	93,997,415	34,115,366	220,913,321
1873.....	18,851,838	60,194,909	5,979,656	76,173,336	30,715,761	191,715,500
1874.....	17,840,356	64,344,898	7,094,531	64,477,540	42,916,997	196,674,322
1875.....	12,478,669	50,540,911	6,311,137	40,885,448	34,792,410	145,008,575
1876.....	11,132,966	32,439,857	3,375,119	31,069,375	35,073,062	113,090,379
1877.....	15,574,893	46,765,635	10,911,786	46,130,795	21,028,903	139,411,963
1878.....	12,703,074	52,264,813	17,834,755	70,433,563	29,021,323	182,254,528
1879.....	12,053,499	56,826,653	37,173,222	144,653,500	34,573,762	285,280,726
1880.....	14,351,622	68,994,219	14,236,227	109,870,264	40,392,459	247,844,790
1881.....	18,399,932	43,440,343	11,863,021	75,331,308	13,148,961	162,351,505

1882.....	20,285,512	42,766,687	4,673,440	61,769,417	18,428,851	147,918,907
1883.....	18,038,056	39,727,973	3,426,474	68,281,320	18,387,400	147,861,223
1884.....	27,588,279	37,335,779	3,125,433	78,864,806	15,182,754	162,007,069
1885.....	17,302,705	31,404,325	2,827,280	58,215,252	9,786,627	119,536,389
1886.....	16,471,406	41,191,562	3,310,422	103,749,354	15,339,102	190,061,846
1887.....	15,568,667	42,729,624	4,808,178	82,161,364	13,978,084	159,245,977
1888.....	14,899,643	33,546,141	3,207,881	56,913,813	13,957,257	122,524,735
1889.....	17,012,190	30,014,906	5,908,500	80,590,288	21,058,338	154,584,222
1890.....	21,888,280	32,680,782	1,879,276	73,838,260	15,464,488	145,617,086
1891.....	17,923,469	38,566,171	1,147,639	47,008,705	11,623,269	116,269,343
1892.....	18,571,008	35,127,543	1,491,611	100,701,774	11,705,012	167,596,948
1893.....	14,421,877	50,483,054	853,407	75,474,765	13,579,991	154,831,094
1894.....	12,706,519	35,849,109	933,886	78,405,074	13,284,972	141,179,560
1895.....	14,504,441	17,185,539	2,489,514	38,648,131	24,625,396	97,453,021
1896.....	11,838,186	27,268,642	2,494,727	37,512,064	20,925,959	100,039,578
1897.....	11,780,232	16,722,091	1,932,216	42,299,589	23,329,210	96,063,338
1898.....	11,489,502	15,005,458	1,369,262	36,386,337	23,781,795	88,122,354
1899.....	14,312,288	13,428,551	1,555,810	40,752,834	22,737,229	92,786,712
1900.....	9,161,366	11,051,632	2,073,468	42,819,110	19,018,196	84,123,772
1901.....	10,697,001	15,036,822	1,773,198	37,467,681	18,504,178	83,478,880
1902.....	9,546,375	15,546,609	1,687,462	34,857,640	20,070,367	81,708,543
1903.....	9,726,311	15,812,570	1,835,315	34,613,801	15,725,328	77,713,325
1904.....	9,255,116	13,791,790	1,515,628	27,205,160	14,614,123	66,381,817
1905.....	11,640,382	13,875,972	1,589,118	19,292,625	11,520,489	57,918,586
1906.....	12,639,416	17,743,782	1,903,347	23,531,901	10,682,971	66,501,417
1907.....	11,032,348	22,069,011	1,146,417	19,957,084	9,699,110	63,903,970
1908.....	7,905,428	15,641,072	1,403,612	19,415,235	10,146,162	54,511,509
1909.....	9,027,781	13,902,062	2,665,622	22,405,574	11,080,533	59,081,752
1910.....	9,373,099	15,068,375	2,161,199	25,132,370	7,307,135	59,042,178

Total value of articles moved on all the canals from 1837 to 1916, etc.—(Concluded).

YEAR	Product of the forest	Agriculture	Manufactures	Merchandise	Other articles	Total
1911.....	\$9,471,169	\$12,874,402	\$1,806,938	\$17,044,496	\$8,380,624	\$40,577,629
1912.....	8,917,887	6,491,416	1,599,552	15,007,394	6,428,368	38,444,617
1913.....	8,528,883	8,436,134	1,540,298	12,867,860	5,492,276	36,865,451
1914.....	5,931,884	7,352,586	1,056,509	9,463,737	4,473,275	28,277,991
1915.....	5,366,707	7,618,495	1,372,542	12,516,580	3,736,346	30,610,670
1916.....	5,694,704	6,702,741	1,551,673	10,418,301	3,146,106	27,513,525

of movement of flour, meal and grain on all the canals from 1861 to 1916, both inclusive

YEAR	Barrels wheat flour	Barrels corn meal	Bushels wheat	Bushels corn	Bushels oats
1861	1,667,416	2,176	33,171,900	25,024,643	6,105,313
1862	2,102,574	18,416	37,579,967	27,225,643	6,550,187
1863	1,930,731	44,704	26,577,166	22,087,056	16,040,937
1864	1,474,582	51,305	19,932,067	11,086,536	15,122,937
1865	1,271,129	24,018	14,433,566	20,689,500	11,973,939
1866	751,870	27,972	10,989,800	28,904,143	12,138,250
1867	569,234	12,808	13,630,300	17,930,500	10,476,000
1868	575,900	14,861	14,425,567	18,437,100	11,927,250
1869	657,807	12,666	22,351,133	9,159,643	5,769,312
1870	509,055	22,250	21,950,800	6,893,893	7,371,312
1871	381,583	6,611	23,951,633	24,002,033	8,118,187
1872	190,129	6,046	13,463,433	32,241,179	5,809,938
1873	181,731	9,342	26,768,800	22,760,571	4,376,437
1874	269,759	8,314	25,738,766	18,542,964	3,713,000
1875	163,287	3,000	24,809,766	10,072,536	3,919,813
1876	86,019	2,232	13,879,200	13,044,786	3,259,188
1877	82,621	3,120	14,934,766	25,837,786	4,127,812
1878	54,666	5,666	28,151,866	26,249,750	5,314,313
1879	66,333	8,130	31,648,866	22,185,000	1,447,750
1880	76,537	12,620	32,201,733	41,307,821	1,305,812
1881	64,129	13,370	14,827,733	16,993,679	1,895,063
1882	86,777	17,370	21,407,196	8,988,821	1,386,250
1883	83,768	1,777	19,124,666	18,677,785	3,225,438

Statement of total movement of flour, meal and grain on all the canals, etc. — (Continued)

YEAR	Barrels wheat flour	Barrels corn meal	Bushels wheat	Bushels corn	Bushels oats
1884	67,138	343	26,346,966	7,079,143	3,293,500
1885	63,602	703	18,864,066	12,866,500	514,625
1886	83,296	5,435	33,270,966	12,670,178	454,875
1887	37,861	65	31,228,000	15,950,607	2,210,312
1888	30,463	2,629	19,373,366	17,846,464	4,445,562
1889	40,555	1,713	16,137,900	21,132,536	3,980,000
1890	32,046	10,740	11,789,700	21,998,000	2,961,437
1891	28,900	.....	25,203,366	5,076,464	1,022,625
1892	45,176	38,000	20,690,933	5,366,750	4,527,750
1893	22,574	1,222	36,446,600	8,912,965	1,498,375
1894	27,047	978	30,116,266	9,942,035	6,302,937
1895	20,333	74	3,345,500	3,495,857	5,892,437
1896	73,741	3,639	13,629,033	3,641,821	12,357,187
1897	29,685	1,481	6,001,166	11,170,572	3,146,562
1898	17,166	435	2,332,866	13,008,857	4,765,250
1899	11,546	287	9,414,066	3,309,643	5,858,312
1900	10,866	818	4,610,083	6,751,670	2,277,258
1901	6,926	331	7,165,140	3,121,192	5,533,000
1902	12,302	1,085	9,731,281	1,178,650	2,792,447
1903	9,954	602	4,794,400	6,833,964	3,895,375
1904	12,009	990	3,375,334	2,442,178	5,176,500
1905	2,130	870	3,669,500	936,536	5,902,312
1906	2,778	92	6,355,434	4,800,464	6,545,375

1907	1,657	74	8,392,567	3,200,821	4,000,062
1908	157	.....	6,122,200	2,525,036	3,813,190
1909	805	.....	6,395,134	2,837,821	4,972,687
1910	129	.....	5,974,967	4,399,607	5,275,500
1911	269	.....	4,792,500	2,535,857	3,888,500
1912	.....	.....	2,612,767	189,714	2,287,187
1913	1,595	.....	2,942,634	858,856	3,356,952
1914	.....	.....	3,096,167	108,300	4,050,795
1915	.....	.....	3,159,267	139,536	2,619,562
1916	.....	.....	2,221,300	.....	1,141,062

Statement of total movement of flour, meal and grain on all the canals, etc. — (Continued)

	Bushels barley	Bushels rye	Bushels peas and beans	Bushels malt	Aggregate in tons
1861	2,444,083	976,000	347,233	.....	2,070,251
1862	2,764,916	967,750	375,433	280,182	2,332,928
1863	3,816,458	592,571	530,700	366,242	2,021,505
1864	3,232,292	670,168	550,000	565,294	1,437,598
1865	5,336,416	1,220,714	401,533	725,151	1,530,037
1866	7,867,041	1,751,928	536,667	298,212	1,680,169
1867	4,972,250	1,044,643	827,133	489,818	1,322,774
1868	3,698,083	783,357	391,667	257,029	1,350,090
1869	4,125,500	481,750	379,233	330,400	1,212,397
1870	5,132,958	697,143	226,123	698,686	1,189,267
1871	4,749,662	1,234,392	162,700	801,371	1,759,882
1872	5,002,543	477,036	146,600	1,578,914	1,586,249
1873	2,941,083	1,077,143	393,300	1,182,466	1,660,981
1874	4,110,584	293,393	200,567	453,200	1,500,490
1875	4,353,125	296,750	195,200	71,287	1,238,115
1876	4,020,584	712,464	174,200	1,510,629	991,197
1877	5,810,542	1,283,857	162,533	718,800	1,439,665
1878	3,730,583	2,307,607	167,100	1,031,000	1,846,742
1879	4,006,000	2,114,643	124,466	582,706	1,770,846
1880	4,426,958	940,714	149,369	820,824	2,304,219
1881	3,399,458	553,000	101,334	887,526	1,074,545
1882	4,027,083	1,549,000	206,834	846,824	1,087,953
1883	2,449,291	3,401,643	43,666	952,706	1,329,099

1884	2,708,666	2,552,214	185,735	707,235	1,198,346
1885	2,691,135	364,678	70,000	604,706	1,028,260
1886	2,619,916	108,750	151,366	901,941	1,446,973
1887	3,144,083	239,892	14,133	781,588	1,498,304
1888	873,208	438,143	64,000	940,176	1,116,733
1889	2,754,541	1,289,357	694,333	1,640,588	1,277,118
1890	3,268,321	800,500	66,833	1,201,058	1,158,029
1891	2,995,958	2,456,107	87,996	662,325	1,072,375
1892	2,149,833	151,285	20,633	816,650	992,798
1893	2,207,250	232,785	42,933	309,118	1,435,540
1894	3,720,625	18,946	33,366	388,058	1,388,859
1895	3,255,458	7,322	15,766	166,000	583,754
1896	4,581,917	2,757,500	12,500	682,764	916,072
1897	4,180,708	2,370,964	10,733	1,037,941	731,213
1898	3,746,083	276,607	4,100	1,565,941	366,774
1899	3,276,125	211,821	800	473,823	562,740
1900	2,633,480	374,224	154	533,636	447,768
1901	2,311,597	368,796	1,334	471,050	465,426
1902	3,138,100	660,817	335	645,600	475,863
1903	2,993,208	429,536	1,767	731,706	495,005
1904	3,692,750	84,321	34	125,559	346,991
1905	4,035,292	132,750	567	362,648	337,815
1906	5,020,708	142,571	5,900	418,706	561,896
1907	3,837,583	76,950	267	817,706	513,754
1908	2,000,292	75,428	25,500	708,176	378,318
1909	2,103,166	217,893	23,700	698,471	420,125
1910	1,851,625	85,000	900	869,118	448,481
1911	835,708	89,892	9,734	858,000	314,476
1912	1,262,667	.....	51,100	760,176	165,050

Statement of total movement of flour, meal and grain on all the canals, etc. — (Concluded)

	Bushels barley	Bushels rye	Bushels peas and beans	Bushels malt	Aggregate in tons
1913	1,647,292	51,875	2,700	698,176	219,146
1914	1,087,607	75,575	.....	1,392,270	212,617
1915	1,186,250	16,500	67	1,325,117	192,059
1916	1,173,917	.....	.....	1,220,470	133,819

STATEMENT of foreign exports of flour and grain from New York from 1861 to 1916

YEAR	Barrels wheat flour	Barrels rye flour	Barrels corn meal	Bushels wheat	Bushels corn	Bushels oats
1861.....	3,110,646	11,807	108,385	28,889,914	12,456,265	160,875
1862.....	2,961,518	8,397	132,606	25,564,755	12,020,848	210,669
1863.....	2,527,338	5,461	140,561	15,424,889	7,533,431	125,566
1864.....	1,918,393	2,840	105,142	12,193,433	846,831	42,135
1865.....	1,402,144	2,873	127,600	2,527,626	2,549,670	94,567
1866.....	900,084	7,552	149,773	522,669	11,079,394	1,190,583
1867.....	871,089	11,754	151,669	4,468,774	8,147,813	144,665
1868.....	1,003,968	7,459	191,011	5,762,037	5,989,225	94,707
1869.....	1,584,211	5,283	137,627	18,240,586	1,637,586	49,393
1870.....	1,950,234	.....	.....	18,446,035	487,792	28,986
1871.....	1,660,400	4,200	123,500	21,968,600	13,040,600	47,300
1872.....	1,216,082	6,399	194,040	13,144,400	25,292,200	31,739
1873.....	1,655,331	8,249	176,756	27,801,800	15,587,500	49,700
1874.....	1,177,608	8,473	168,603	34,791,249	19,000,995	122,528
1875.....	1,954,100	5,700	173,400	26,192,700	12,938,700	138,800
1876.....	1,887,441	5,778	172,042	24,144,033	16,610,232	620,536
1877.....	1,537,106	7,799	220,939	21,355,774	25,373,942	257,634
1878.....	2,630,437	4,375	202,788	55,019,389	27,440,771	3,658,905
1879.....	3,684,366	6,049	150,178	61,538,861	35,319,789	521,406
1880.....	4,215,415	5,205	230,716	61,908,029	49,875,430	427,959
1881.....	4,440,114	3,264	196,985	41,788,182	31,731,995	431,426
1882.....	4,623,965	.....	112,316	37,620,153	9,012,373	170,586
1883.....	4,330,146	.....	.....	20,049,200	22,222,754	162,665

Statement of foreign exports of flour and grain from New York from 1861 to 1916 — (Continued)

	Barrels wheat flour	Barrels rye flour	Barrels corn meal	Bushels wheat	Bushels corn	Bushels oats
1884.....	3,907,021	.....	530	28,687,362	11,862,158	2,456,219
1885.....	3,763,029	3,863	152,488	16,286,800	26,259,228	6,198,302
1886, not reported.....	.....	.....	.....	.....	.....	.....
1887, to December 1.....	3,731,523	.....	105,735	40,893,437	11,920,425	142,938
1888, to December 1.....	3,476,991	.....	107,589	12,224,374	12,101,098	112,069
1889, to December 1.....	3,056,855	.....	135,006	9,627,444	27,380,443	885,257
1890.....	3,417,399	.....	136,432	12,549,946	24,550,165	9,301,046
1891.....	3,798,076	.....	160,533	46,514,096	12,819,911	3,205,466
1892.....	6,034,260	.....	163,765	45,259,966	18,293,353	2,650,639
1893.....	6,032,903	114	159,149	38,017,932	12,802,039	5,177,007
1894, to December 1.....	5,814,657	.....	178,346	21,612,790	10,329,787	219,844
1895, to December 1.....	4,009,157	.....	144,631	18,348,193	17,891,140	1,302,900
1896, to December 1.....	4,264,302	.....	140,449	16,864,330	16,845,658	14,794,568
1897.....	4,699,767	.....	272,975	25,085,896	33,206,509	34,714,008
1898.....	4,738,214	.....	366,663	49,909,158	39,632,273	23,765,046
1899.....	4,741,035	.....	407,691	26,830,386	40,429,477	12,943,153
1900.....	4,487,306	.....	444,943	18,259,428	43,532,024	8,819,441
1901.....	4,092,711	.....	317,920	27,140,388	23,831,380	8,457,228
1902.....	4,149,129	.....	187,004	19,955,526	3,052,715	1,803,663
1903.....	4,281,084	.....	439,174	9,435,934	22,063,881	669,423
1904.....	2,672,766	.....	250,204	425,874	9,433,283	269,670
1905.....	2,550,938	.....	277,154	3,666,201	27,283,344	6,489,616
1906.....	3,038,838	.....	205,203	14,913,686	20,779,730	5,218,147

1907.....	3,045,125	.....	197,047	22,769,338	21,253,050	280,751
1908.....	3,410,944	.....	173,934	20,578,026	4,686,576	145,341
1909.....	2,991,063	.....	136,187	12,587,537	4,149,506	305,355
1910.....	2,963,869	.....	197,692	2,449,860	7,242,901	283,675
1911.....	3,587,628	.....	201,030	7,343,573	12,634,740	464,810
1912.....	3,511,743	.....	226,871	16,720,248	4,971,768	4,492,601
1913.....	4,023,661	.....	214,970	25,602,631	5,930,564	849,160
1914.....	4,852,039	.....	165,942	28,799,431	3,548,100	6,868,001
1915.....	7,120,089	.....	266,894	50,771,732	9,369,568	15,714,238
1916.....	4,543,731	.....	217,289	39,755,160	6,262,866	8,412,399

Statement of foreign exports of flour and grain from New York from 1861 to 1916 — (Continued)

YEAR	Bushels barley	Bushels rye	Bushels peas and beans	Bushels malt	Aggregate in tons
1861	3,927	1,000,405	139,284	.....	1,599,261
1862	42,061	1,104,549	113,819	.....	1,477,221
1863	52,439	416,369	110,911	.....	980,675
1864	150	588	186,154	.....	614,642
1865 . . . . .	.....	198,348	88,899	.....	322,451
1866	1,329,842	248,646	282,992	.....	506,520
1867	886,893	473,260	680,763	.....	531,204
1868	90	152,993	189,226	.....	481,902
1869 . . . . .	.....	142,524	123,156	.....	788,075
1870 . . . . .	.....	92,431	151,102	.....	785,249
1871	98,700	525,800	90,900	.....	1,238,053
1872	22,066	668,030	156,609	.....	1,378,412
1873	19,400	1,069,100	143,500	.....	1,504,771
1874	3,560	641,661	463,193	.....	1,863,297
1875	1,500	206,900	364,900	.....	1,405,544
1876	88,097	1,336,283	716,428	.....	1,483,402
1877	2,412,509	2,049,796	487,031	.....	1,675,902
1878	1,518,922	4,048,841	476,184	.....	2,949,042
1879	147,867	3,941,638	393,153	.....	3,383,953
1880	254,833	2,181,183	654,669	.....	3,825,168
1881	15,477	1,068,928	218,370	.....	2,687,356
1882	6,616	1,980,586	572,567	.....	1,967,989
1883	8,939	4,467,853	.....	.....	1,819,284

1884	.....	76,343	4,846,088	770,729	.....	1,413,686
1885	.....	408	493,319	.....	.....	1,759,840
1886, not reported	.....	.....	.....	.....	.....	.....
1887, to December 1	.....	46,189	356,817	185,877	.....	2,193,962
1888, to December 1	.....	48	6,237	182,511	.....	1,098,641
1889, to December 1	.....	226	809,405	244,246	.....	1,440,719
1890	.....	275,313	1,351,726	371,814	.....	1,652,144
1891	.....	1,869,569	4,448,675	668,069	.....	2,421,816
1892	.....	235,206	3,254,849	663,927	.....	2,698,507
1893	.....	257,744	439,459	473,796	.....	2,282,685
1894, to December 1	.....	300	208	.....	.....	1,581,391
1895, to December 1	.....	42,743	246	.....	.....	1,521,886
1896, to December 1	.....	6,162,012	3,208,448	.....	.....	2,027,759
1897	.....	8,916,452	5,797,517	.....	.....	3,151,164
1898	.....	2,451,271	8,307,944	1,151,811	.....	3,864,551
1899	.....	7,619,862	2,745,970	.....	.....	2,960,070
1900	.....	4,833,493	1,479,380	.....	.....	3,597,900
1901	.....	233,907	1,050,006	.....	.....	2,128,169
1902	.....	341,072	2,316,417	327,502	.....	1,264,173
1903	.....	308,616	1,310,550	321,243	.....	1,475,104
1904	.....	2,066,155	143	301,340	.....	655,536
1905	.....	5,304,708	271,010	288,734	.....	1,426,751
1906	.....	4,310,610	472,489	207,783	.....	1,586,006
1907	.....	133,580	1,128,070	137,588	.....	1,651,730
1908	.....	141,591	1,227,843	277,540	.....	1,182,657
1909	.....	238,567	187,496	104,593	.....	850,554
1910	.....	16,984	16,765	.....	.....	621,218
1911	.....	156	95	.....	.....	990,700
1912	.....	2,151,846	172,876	230,040	.....	1,179,854

Statement of foreign exports of flour and grain from New York: from 1861 to 1916 — (Concluded)

	Bushels barley	Bushels rye	Bushels peas and beans	Bushels malt	Aggregate in tons
1913	2,682,925	671,521	184,585	.....	1,494,222
1914	1,444,163	1,824,835	.....	.....	1,700,915
1915	4,747,226	1,783,253	.....	.....	2,998,587
1916	9,580,856	578,870	.....	.....	2,262,950

TOTAL tonnage of all the property on the canals, ascending and descending, and the value for the eighty years preceding, is as follows:

YEAR	Tons	Value
1837	1,171,296	\$55,809,288
1838	1,333,011	65,746,559
1839	1,435,713	73,399,764
1840	1,416,046	66,303,892
1841	1,521,661	92,202,929
1842	1,236,931	60,016,608
1843	1,513,439	76,276,909
1844	1,816,586	90,921,152
1845	1,977,565	100,629,859
1846	2,268,662	115,612,109
1847	2,869,810	151,563,428
1848	2,796,230	140,086,157
1849	2,894,732	144,732,285
1850	3,076,617	156,397,929
1851	2,582,733	159,981,801
1852	3,863,441	196,603,517
1853	4,247,853	207,179,570
1854	4,165,862	210,284,312
1855	4,022,617	204,390,147
1856	4,116,082	218,327,062
1857	3,344,061	136,997,018
1858	3,665,192	138,568,844
1859	3,781,684	132,160,758
1860	4,650,214	170,849,198
1861	4,507,655	130,115,893
1862	5,598,785	203,234,331
1863	5,557,692	240,046,461
1864	4,852,941	274,400,639
1865	4,729,651	256,237,104
1866	5,775,220	270,963,676
1867	5,688,325	278,956,712
1868	6,442,225	305,301,929
1869	5,859,080	249,281,284
1870	6,173,769	231,836,176
1871	6,467,888	238,767,691
1872	6,673,370	220,913,321
1873	6,364,782	191,715,500
1874	5,804,588	196,674,322
1875	4,859,958	145,008,575
1876	4,172,129	113,090,379
1877	4,955,963	128,923,890

Total tonnage of all property on the canals, etc.—(Concluded)

YEAR	Tons	Value
1878	5,171,320	182,254,528
1879	5,362,372	285,280,726
1880	6,467,656	247,844,790
1881	5,179,192	162,153,565
1882	5,467,423	147,918,907
1883	5,664,056	147,861,223
1884	5,009,488	162,097,069
1885	4,731,784	119,536,189
1886	5,293,982	180,061,846
1887	5,553,805	159,245,977
1888	4,942,948	122,524,735
1889	5,370,369	154,584,222
1890	5,246,102	145,761,086
1891	4,563,472	116,269,343
1892	4,281,995	167,596,948
1893	4,331,963	154,831,094
1894	3,882,560	141,179,560
1895	3,500,314	97,453,021
1896	3,714,894	100,039,578
1897	3,617,804	96,063,338
1898	3,360,163	88,122,354
1899	3,686,051	92,786,712
1900	3,345,941	84,123,772
1901	3,420,613	83,478,880
1902	3,274,610	81,708,453
1903	3,615,385	77,713,325
1904	3,138,547	66,381,817
1905	3,226,896	57,918,586
1906	3,540,907	66,501,417
1907	3,407,914	63,903,970
1908	3,051,877	54,511,509
1909	3,116,536	59,081,752
1910	3,073,412	59,042,178
1911	3,097,068	49,577,629
1912	2,606,116	38,444,617
1913	2,602,035	36,865,451
1914	2,080,850	28,277,991
1915	1,858,114	30,610,670
1916	1,625,050	27,513,525

TOTAL GRAIN *received at Buffalo each year since 1836, and total grain, including flour, received each year*

YEAR	Grain, bushels	Grain. including flour, bushels
1836	543,461	1,239,351
1837	550,560	1,184,685
1838	974,751	2,302,887
1839	1,117,262	2,302,851
1840	1,075,885	4,061,598
1841	1,852,325	5,692,525
1842	2,015,928	5,687,468
1843	22,055,025	6,642,610
1844	2,335,568	6,910,719
1845	1,848,040	5,581,790
1846	6,491,522	13,366,167
1847	8,688,187	19,153,187
1848	7,396,012	14,641,018
1849	8,628,013	14,665,189
1850	6,618,004	12,059,551
1851	11,449,661	17,740,784
1852	13,592,937	20,390,500
1853	11,078,741	15,956,525
1854	18,553,455	22,252,288
1855	10,788,473	24,472,277
1856	20,123,667	25,753,965
1857	15,348,930	19,578,690
1858	20,202,444	26,812,982
1859	14,429,069	21,530,722
1860	31,441,440	37,073,115
1861	50,062,646	61,460,601
1862	58,642,344	72,872,454
1863	49,845,065	64,735,510
1864	41,044,498	51,177,146
1865	42,473,223	51,415,188
1866	51,820,342	57,388,087
1867	43,499,780	59,700,060
1868	42,436,201	49,949,856
1869	37,014,728	45,007,163
1870	39,261,141	46,013,096
1871	60,765,457	67,155,742
1872	58,447,822	62,260,232
1873	76,340,570	73,636,595
1874	81,562,627	70,030,552
1875	65,194,716	74,246,726
1876	46,038,598	50,074,648
1877	61,734,071	66,199,291
1878	79,176,152	84,046,052

Total grain received at Buffalo each year, etc.—(Concluded)

YEAR	Grain, bushels	Grain, including flour, bushels
1879	74,379,829	78,865,354
1880	105,453,372	112,042,927
1881	56,806,545	62,062,895
1882	50,833,590	56,830,340
1883	65,722,080	76,079,930
1884	56,963,970	70,041,520
1885	49,740,060	64,260,460
1886	72,514,840	95,425,790
1887	84,730,910	104,737,710
1888	73,223,500	99,448,150
1889	90,869,880	118,273,430
1890	89,312,800	120,540,700
1891	128,993,020	161,459,720
1892	133,039,090	181,769,690
1893	135,909,920	188,730,370
1894	103,959,165	161,401,815
1895	118,027,930	162,936,630
1896	163,431,814	214,352,734
1897	185,443,816	242,140,306
1898	221,383,945	273,242,210
1899	153,393,184	194,293,112
1900	157,655,969	209,239,824
1901	132,641,828	187,909,664
1902	124,626,548	184,759,518
1903	140,348,822	196,653,957
1904	100,838,000	131,642,842
1905	126,465,729	177,496,229
1906	136,096,528	187,403,448
1907	132,438,798	181,237,178
1908	114,245,438	153,336,678
1909	113,415,385	152,896,845
1910	97,354,404	138,229,078
1911	117,421,376	157,295,756
1912	144,986,044	182,909,809
1913	172,138,722	219,542,377
1914	144,108,083	189,612,083
1915	212,221,872	254,367,502
1916	177,418,688	212,205,848

The following statements shows the receipts of flour, wheat and corn at Buffalo by lake for eighty-one years

YEAR	Flour, barrels	Wheat, bushels	Corn, bushels
1836	139,178	304,990	204,355
1837	126,805	450,359	94,490
1838	277,620	933,117	34,148
1839	294,125	1,117,262	.....
1840	597,142	1,004,561	71,337
1841	730,040	1,635,000	201,031
1842	734,408	1,555,420	453,520
1843	917,517	1,827,241	223,966
1844	915,030	2,174,500	137,978
1845	746,750	1,770,740	54,200
1846	1,374,529	4,744,184	1,455,258
1847	1,857,000	6,489,100	2,862,800
1848	1,249,000	4,520,117	2,298,000
1849	1,207,435	4,943,978	3,321,651
1850	1,103,039	3,681,347	2,593,378
1851	1,258,224	4,167,121	5,988,775
1852	1,299,213	5,549,778	5,136,746
1853	975,557	5,420,043	8,065,793
1854	739,756	5,510,782	10,108,983
1855	937,761	8,022,126	9,711,430
1856	1,126,048	8,465,671	9,633,277
1857	845,953	8,334,179	5,713,611
1858	1,536,019	10,671,550	6,621,688
1859	1,420,383	9,234,652	3,113,653
1860	1,122,335	18,502,615	11,386,217
1861	2,159,591	27,105,219	21,024,657
1862	2,846,022	30,325,831	24,388,627
1863	2,978,088	21,240,348	20,086,912
1864	2,028,520	17,677,519	10,478,681
1865	1,788,393	13,437,888	19,840,901
1866	1,313,543	10,479,694	27,894,798
1867	1,440,056	11,879,685	17,873,638
1868	1,502,731	12,555,215	16,804,067
1869	1,598,487	19,228,546	11,549,403
1870	1,470,391	20,556,722	9,410,128
1871	1,278,077	22,606,217	26,110,769
1872	762,502	14,304,942	34,643,180
1873	1,259,205	30,618,372	28,550,828
1874	1,693,585	29,778,572	248,974,540
1875	1,810,402	32,987,656	22,593,891
1876	807,210	19,324,612	20,939,853
1877	693,044	23,284,405	33,362,866
1878	911,980	35,419,136	35,133,853

Receipts of flour, wheat and corn at Buffalo by lake—(Concluded)

YEAR	Flour, barrels	Wheat, bushels	Corn, bushels
1879	897,105	37,788,501	32,990,993
1880	1,317,911	40,510,229	62,214,617
1881	1,051,250	18,495,320	34,434,830
1882	1,199,350	26,050,030	21,664,530
1883	2,071,570	24,105,420	34,775,040
1884	2,615,510	2,469,710	18,538,340
1885	2,993,280	27,130,400	21,028,230
1886	4,582,190	41,340,440	29,155,370
1887	4,001,360	48,111,180	30,199,490
1888	5,244,930	27,548,110	36,422,270
1889	5,480,710	26,051,600	47,127,150
1890	6,245,580	14,868,630	44,136,660
1891	7,093,340	76,945,960	29,616,390
1892	9,746,120	78,243,560	32,377,780
1893	10,562,090	68,243,750	40,539,796
1894	11,488,530	50,194,130	29,078,520
1895	8,971,740	46,484,510	38,244,960
1896	10,384,184	54,411,207	47,811,210
1897	11,339,298	50,584,719	55,553,741
1898	10,371,653	83,872,837	67,950,073
1899	8,810,097	48,232,016	53,503,404
1900	11,463,079	47,826,458	63,192,660
1901	11,053,439	61,294,248	30,539,848
1902	12,026,616	62,452,696	22,487,454
1903	11,243,027	40,455,328	43,364,979
1904	6,160,965	26,270,000	27,898,000
1905	10,201,100	40,436,616	32,745,046
1906	10,279,384	55,544,832	25,976,478
1907	9,759,676	66,658,138	28,477,767
1908	7,818,248	63,857,080	13,779,988
1909	7,899,292	61,084,797	16,027,578
1910	7,231,580	50,450,911	22,992,368
1911	7,054,640	67,495,523	30,384,745
1912	7,584,753	108,225,504	12,750,250
1913	9,481,131	114,129,472	18,960,144
1914	9,100,752	100,442,591	14,309,078
1915	8,429,126	116,670,198	17,281,413
1916	6,957,432	138,668,781	3,527,207

The following statement shows the receipts of oats, barley and rye at Buffalo by lake for eighty-one years

YEAR	Oats, bushels	Barley, bushels	Rye, bushels
1836	28,640	4,876	1,500
1837	2,533	.....	3,260
1838	6,577	.....	909
1839	.....	.....	.....
1840	.....	.....	.....
1841	14,144	.....	2,150
1842	.....	4,710	1,268
1843	2,489	.....	1,332
1844	18,017	1,617	456
1845	23,300	.....	.....
1846	218,300	47,536	28,250
1847	446,000	.....	70,787
1848	560,000	.....	17,789
1849	362,384	.....	.....
1850	357,580	3,627	.....
1851	1,140,430	142,773	10,652
1852	2,596,231	497,913	112,251
1853	1,580,655	401,098	107,152
1854	4,401,739	313,757	177,066
1855	2,693,222	62,304	299,591
1856	1,733,382	46,327	245,810
1857	1,214,760	37,844	48,536
1858	2,275,231	308,374	125,214
1859	394,502	361,550	124,693
1860	1,209,594	262,158	80,822
1861	1,797,905	313,715	337,764
1862	2,624,982	428,124	791,564
1863	6,322,187	641,440	422,309
1864	11,682,637	465,097	633,726
1865	8,494,799	820,563	877,677
1866	10,227,472	1,606,384	1,245,485
1867	10,933,166	1,802,598	1,010,693
1868	11,492,472	637,124	947,323
1869	5,459,347	651,339	126,093
1870	6,846,983	1,821,154	626,154
1871	9,106,409	1,942,928	1,095,009
1872	6,050,045	3,088,925	301,809
1873	5,972,346	1,322,507	906,977
1874	5,396,781	1,154,948	167,301
1875	8,494,124	906,889	222,126
1876	2,397,257	2,615,081	761,795
1877	4,279,229	1,652,568	1,155,003
1878	5,122,972	1,375,184	2,135,007

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Receipts of oats, barley and rye at Buffalo by lake — (Concluded)

YEAR	Oats, bushels	Barley, bushels	Rye, bushels
1879	1,101,974	600,740	1,884,802
1880	649,350	355,925	743,451
1881	3,565,737	282,510	22,210
1882	1,620,170	701,500	767,360
1883	3,226,900	583,800	2,830,830
1884	3,174,730	534,130	2,247,060
1885	767,580	577,230	309,370
1886	1,014,670	787,730	126,630
1887	4,656,280	1,459,420	304,540
1888	7,897,310	842,090	513,720
1889	4,309,800	1,474,570	1,906,760
1890	13,860,780	5,165,700	1,281,030
1891	12,454,150	4,373,120	5,603,400
1892	16,500,250	4,600,970	1,316,530
1893	20,700,150	5,791,460	644,590
1894	15,560,230	8,625,090	501,195
1895	21,943,680	10,253,440	787,340
1896	40,107,499	16,697,744	4,404,354
1897	59,815,210	12,858,741	6,631,405
1898	45,501,233	11,391,332	6,821,694
1899	26,423,358	15,008,426	2,084,643
1900	28,422,256	9,868,196	1,314,743
1901	21,438,545	7,687,239	1,256,284
1902	15,891,387	8,969,865	3,716,628
1903	30,976,088	10,681,655	3,416,983
1904	19,124,000	15,665,000	1,736,600
1905	25,733,094	14,618,495	688,450
1906	23,951,155	13,681,058	1,243,640
1907	11,272,858	11,264,101	1,313,154
1908	10,455,716	11,649,064	856,944
1909	13,110,014	12,765,503	655,684
1910	12,366,891	11,207,763	336,471
1911	9,501,000	9,349,412	690,692
1912	10,580,150	12,176,925	1,250,215
1913	20,517,487	17,455,376	1,075,242
1914	11,858,666	13,229,162	4,268,738
1915	10,969,616	13,512,782	3,787,863
1916	22,036,301	11,709,053	1,477,346

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